

Cycle[®]

NOVEMBER 1976 • 75 CENTS

First Test

KAWASAKI KZ650 FOUR

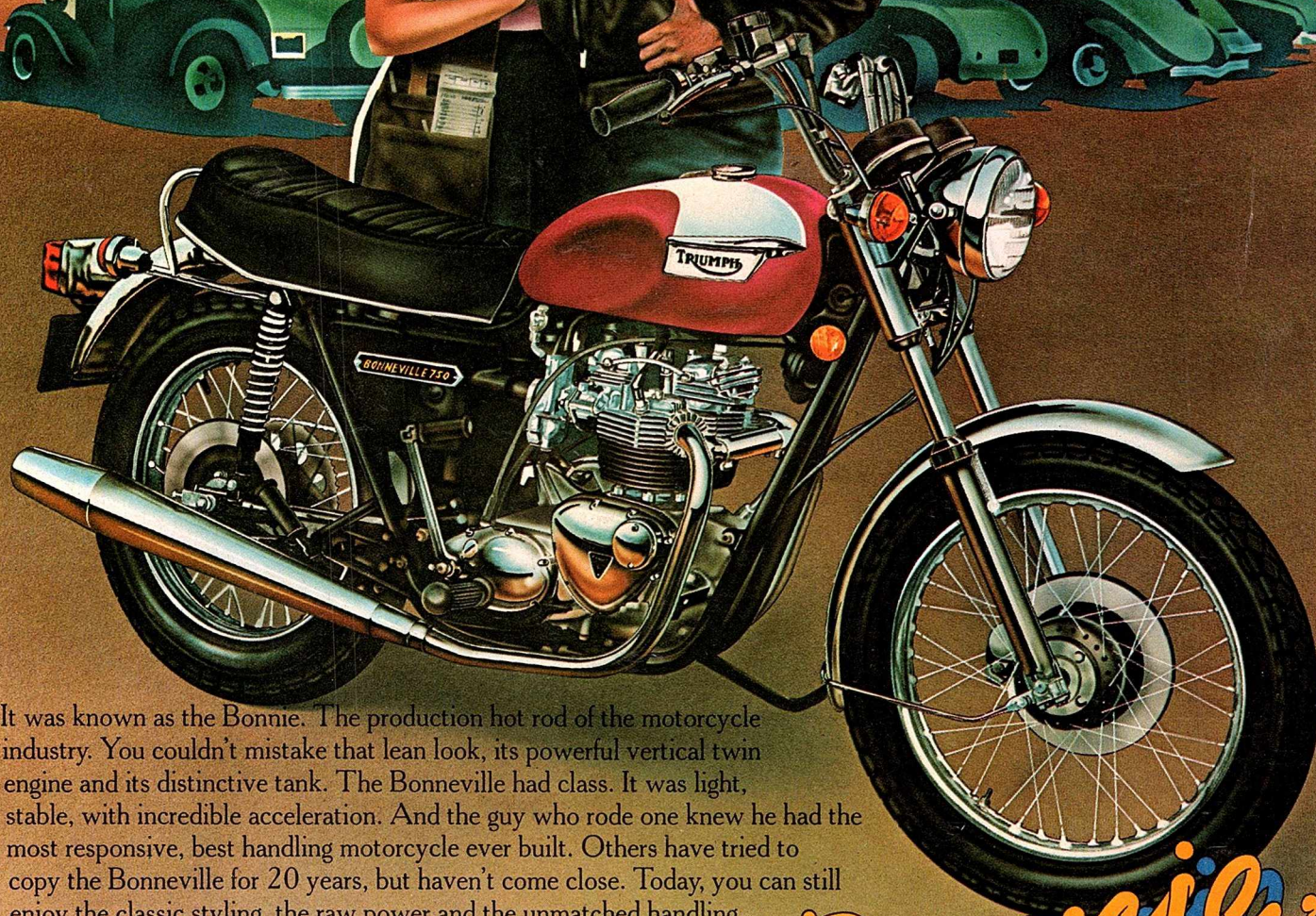
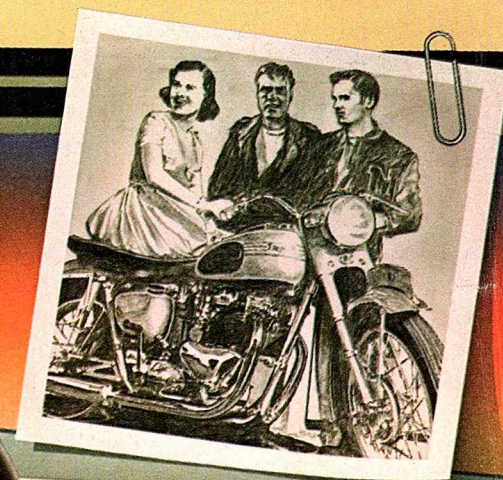
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TIRES AND RIMS

What Works
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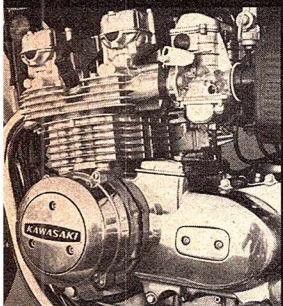
The Bonnie

THEY NEVER FORGOT IT.

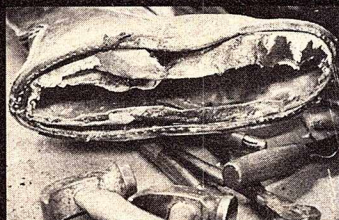
CIRCLE NO. 27 ON READER SERVICE PAGE.



p.60



p.28



p.58

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This Month's Cover: Sooner or later, somebody was going to use the Kawasaki Z1 as a point of departure and head backward down the displacement range with some of the Z's technology and performance. Suzuki did it first, with the GS750—and now Kawasaki has done it themselves, with the 40-inch KZ. Test begins on page 28. Cover photography by Dale Boller.

Test

- 28 **Kawasaki KZ650-Four**
New entry in the mini-Superbike league.

Features

- 48 **Malcolm Smith Fanny-Pack**
Just the place for odds and ends.
57 **The SAE Paper Route**
Here's what they've got, and here's what they know.
58 **Rister Boot and Leather Repair**
Send him your torn, your tattered, your ruined.
68 **1924 ISDT: A Browne Day in History**
Wherein Sir Thomas Browne . . . well, read the story. By Goodwin Sands

Competition

- 60 **Laguna Seca National: Winning Every Mile**
Steve Baker spent a weekend with nobody in front of him. By Phil Schilling

Technical

- 41 **Tires and Rims: Which Fits What**
If all else fails, look it up. By Gordon Jennings
46 **How Quick Can It Really Go?**
Have another graph—this one to figure quarter-mile ET. By Ray Battersby

Departments

- 4 **Editorial / Here's to Sponsors / Cook Neilson**
6 **Letters / Down to Earth**
17 **Pipeline / Minority Sport**
20 **Tips / Winterize Yourself**
22 **Bits / Falling Starrs**
90 **Review / The Motorcycle Experience**
96 **Road Test Index**
98 **Classified Ads / Goods and Services New and Used**
101 **Readers Service / How To Find What You Saw and Liked**
102 **Newsline / Hardware, Software**

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HONDA

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Always wear a helmet and eye protection when riding, keep lights on and check local laws. Model availability may be limited. MT's are designed for operator use only. For free brochure, write: American Honda Motor Co., Inc., Dept. GR, Box 50, Gardena, California 90247. See Yellow Pages for nearest dealer. ©1976 AHM.

CIRCLE NO. 85 ON READER SERVICE PAGE.

Here's To Sponsors

● "WHEN YOU THINK ABOUT IT," my race-promoter friend was saying, "if it hadn't been for a few sponsors, there might not be any first-class road racing in this country at all."

Sponsors. People or organizations which spend tangible sums of money for intangible (sometimes invisible) returns; people or organizations whose connection to a particular event or participant seems motivated more by affection than profit; people or organizations which recognize up front that the bales of money they're forking over might never be heard from again, and keep on forking.

Sponsor rolls change perpetually, the changes reflecting many things: new thinking, new budgeting, new enthusiasm, despondency, boredom, bankruptcy. Some sponsors come and go in a heartbeat. Questor Industries backed a race at Ontario five years ago between Formula One cars and Formula 5000 cars. Despite the finest PR efforts of Jackie Stewart, Questor dropped the event shortly after the checkered flag fell, never to return.

There are all kinds of sponsors, from Elmer's Hot Wax and Motorcycle Boutique (he backs the local warm-dog in the 100 cc motocross class to the tune of a free "Elmer's" belt buckle and all the valve jobs his Gina needs) all the way to a Corpus Elephantis like Champion, which has carried, pained but smiling, the Ontario National all these years and only recently moved its support to the Laguna Seca National, where the air is clean and you need more than your fingers and toes to count the house.

Between these two extremes are a multitude of sponsors, all with different (harumph) corporate reasons to justify their involvement. Some hope to legitimize a product, service or component by rewarding those who do well in competition using that particular piece or procedure. They put up "contingency" money; win a race using Slick'n'Slidey cable lube, and if you've got an S'n'S decal on your bike or person, you'll have an S'n'S check in your wallet before you know it, and maybe even a picture of yourself in an S'n'S ad with the words in the balloon saying, "No doubt about it: S'n'S made the difference. Before I got my cable lubed I was just a wretched back-marker. Now I'm a front-marker. Thank you, Slick'n'Slidey."

Others sponsor not a product but a

rider, or team of riders, and hope that the association creates an aura that somehow will enhance the image of a particular business venture or product. Riders have been, and continue to be, sponsored by restaurants, cigarettes, T-shirt companies, blue jean enterprises, retail clothing outlets and friendly neighborhood laundromats—but the great bulk of riders are sponsored by dealerships, motorcycle repair facilities and accessory manufacturers and distributors. Several things are accomplished by giving such support: the public is made aware of the existence of the sponsoring dealership and its probable solvency ("Hey, those guys must be doing pretty good if they can afford to pay for a racing program."), and has reason to believe that such funding must reflect a loyal clientele of satisfied customers. And the public, unless the effort in question is so inept as to be the laughing stock of the circuit, is shown a degree of expertise that is reassuring.

All of this, everyone realizes, is pretty thin stuff. Because Raymond Ratchet can get James Gassit's Velocette running heartily on all one cylinder, it does not follow that A) Fatchet can do the same for your BSA Falling Star or that B) he'll work on it at all. Because the Yamaha sponsored by Quilicie's Galosh happens to run towards the front, there is no reason to believe that his galoshes won't leak and give you a cold. And if the Howard's House of Omelettes 40-Wt. Grit Supreme Special finishes in the top ten at Daytona, that's no guarantee that a lunch at Howard's won't bring on Legionnaire's Disease or worse.

Beyond the rather transparent beliefs held by most sponsors that a racing association will somehow contribute meaningfully to a business enterprise lies a deep and abiding affection for either motorcycle racing, his rider (often a relative) or both—and it is this affection that really counts, especially when the limited possibilities of real success are recognized. Middle- or lower-level sponsors like to be part of the scene, they find participation invigorating, or they remember how much fun it was to have a sponsor themselves when they were racing. Since all forms of racing consume vast sums of money, racing without sponsorship would be a dreary, tattered spectacle indeed.

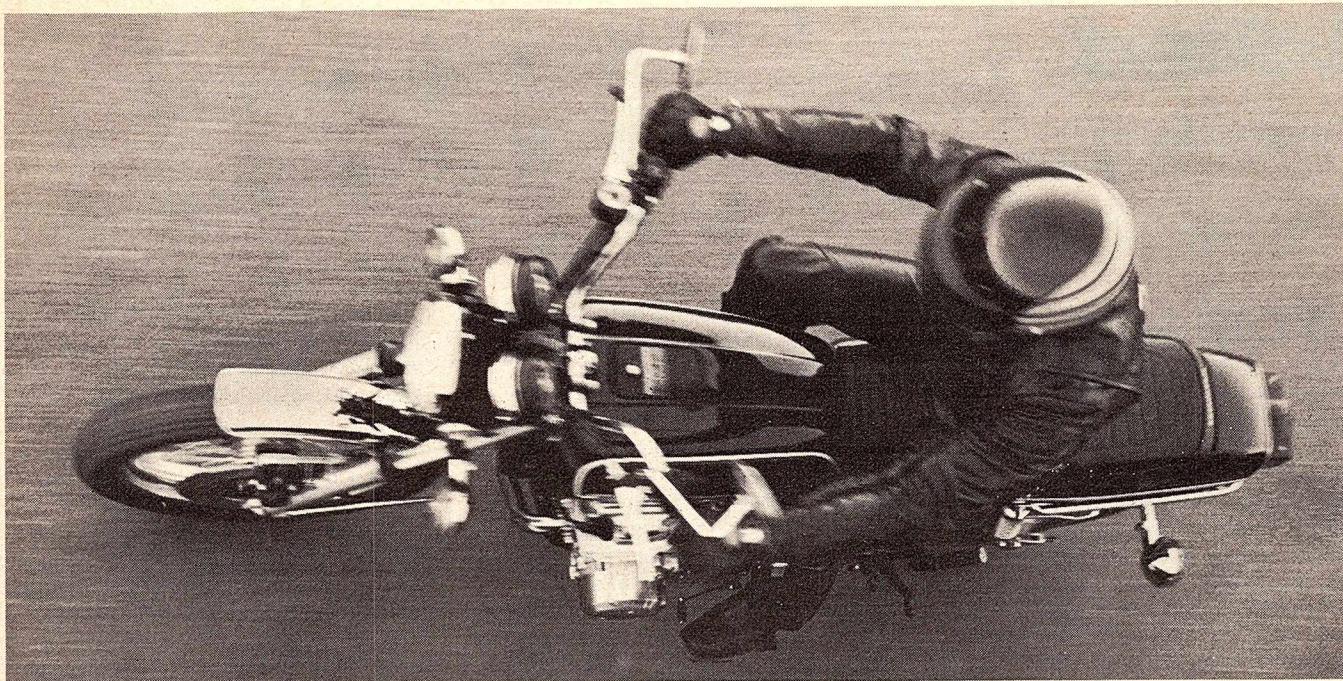
And big-time road racing in the United States, without generous sponsorship at

all levels, might not exist. In 1975, there were but three AMA National road races: Daytona, Laguna Seca and Ontario. Daytona, the most important motorcycle event in the world, is self-sufficient and would have endured in any case. The other two, without the active support of major sponsorship, would not. According to Gavin Trippe of Trippe-Cox and Associates, the AMA's most active road race promoters, had Kawasaki not supported Laguna Seca during its early years as a National and guaranteed it the time to develop as an annual happening, Laguna would have been off the schedule as early as 1974. And Ontario would never have made it on the scene at all were it not for Champion's persistent belief that a Daytona-West was around the corner. So without initial help from Kawasaki and ongoing help from Champion, the '75 season would have enjoyed but a single National road race—Daytona. And one race is not enough to give riders assurance that they can make a living, or manufacturers assurance that R&D on new pavement machines is worthwhile, or dealers assurance that the capital outlay for an AMA road racer would be in any way defensible or bright.

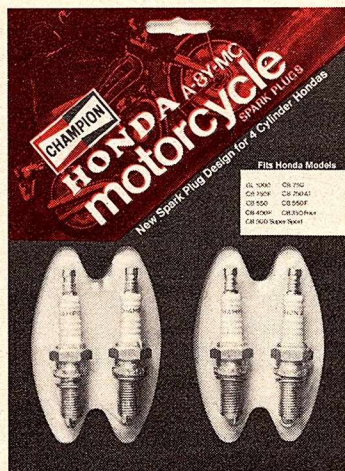
The interest that Kawasaki and Champion maintained during those critical times sustained the pavement aspect of the National scene, and it now appears that from the four road races we have this year will grow four more for 1977: Pocono, Dallas, Charlotte and Sears Point will in all likelihood be granted AMA sanctions for next year, and road racing, if not in the pink of health, is at least moving toward recovery.

We have the sponsors to thank for that. Not just Champion, and Mulholland, and Camel (which supports all of the AMA Nationals to the tune of many thousands of dollars), and Kawasaki, and Duckworth (which helped revive Loudon this year), and of course Yamaha, but *all* the sponsors—those who put up contingency money, and those like Goodyear and Dunlop who supply tires at a cost reflective of perhaps 20% of their value, and those who labor mightily over a hot TZ-750 in hopes of not getting lapped too many times or not crashing too hard or not seizing too tight, and those who pay racers real money to carry the "Ernie's Parachutes" banner into combat knowing

(Continued on page 82)



Champion announces better Honda Four performance.



You bought your Honda Four for the performance it would give you, right? Well Champion has a new line of Deep Sparking plugs that will give you even better performance than standard spark plugs give.

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nearest Champion dealer.

So fill 'er up with Deep Sparking Champions.



**Fill 'er up
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Down to Earth

All right, I give up! You win! Congratulations! Your aerodynamics article in the September issue was definitely Class-A material and super-impressive. The only thing wrong with it is that it doesn't belong in a general interest cycle magazine; it belongs in a physics textbook. Please, PLEASE get CYCLE magazine back down to earth. How about more product evaluations and really helpful articles and less esoterica? Before printing articles that appeal to you, ask yourself whether they will also appeal to your reader's baser outlooks and needs. As long as my bike propels me down the highway in comfort at 55 m.p.h., I'm satisfied. I have no intention of stream-lining and modifying it into a two-wheeled Concorde.

Charles Rossi
Jackson Heights, New York

SPORTING MIDDLEWEIGHTS

Thank you for your comparison tests. Previous readers of individual tests could not realistically compare one model with another. But your comparison tests puts it all together.

The manufacturers of course should welcome these tests for everyone isn't going to rush out and buy the winner or automatically reject the loser. We are indeed, all different, and will select our motorcycles based on our individual preferences, wants and needs.

Your comparison tests in the August issue are a case in point. I am a 45 year old cafe racer in carpet slippers, and I don't dig two strokes. My choice then, the Yamaha XS500C. Without a test ride, (what can a few hundred yards up the road tell you?) I purchased this machine based on your comparison test and I knew it very well. You did not let me down. It is everything you said it was, and more, and I am most pleased. This is my 22nd machine in 30 years and right now has the potential of being the most rewarding.

Roy Prichard
Milan, Tennessee

Thanks for that great comparison test in your August issue.

I bought my Suzuki 550 while I was working as a mechanic at a Honda, Yamaha, BMW dealer. Needless to say it didn't go over too well with the boss, but after adjusting valves and repairing other peoples bikes all day, I didn't want to have to spend any time on mine, except riding.

Anyway, I now live in Aspen, Colo. and riding around on twisty mountain roads is

a way of life here, so I find I must comment on your placing the bike down the scale on "Mountain Road Suitability".

Out of the crate the bike does have a mushy suspension. It tended to wallow in fast turns and on bad roads. Replacing the "fish oil" in the forks with some racing fork oil, and a set of Konis at the rear made a drastic improvement. The bike now had increased ground clearance and felt much more stable in a turn. Now, however, the tires were the weak link and were sliding around well before anything started dragging. A set of K-81s soon put an end to the problem.

The bike now is extremely stable in a turn. It feels just as stable in a hard sweeper as it does straight up, and you really have to turn it on to scrape anything.

I agree that these four pipes are ridiculous, and it's no RD350 or 400, but it's one hell of a compromise!

Sheldon Fingerman
no address

Thanks for excluding the Honda CB400F from the sporting middleweight comparison test (Aug. 76). The facts that it's only .001 second slower in the quarter than the RD 400C, gets over 50 miles per gallon, is smoother than a BMW, and outhandles most everything else would increase demand to a point where the dealers would be asking list. Thanks to you, we can continue to get one for about a grand.

Marc Caroselli
no address

Your pick of the "Sporting Middleweights" weighed 474 pounds, cost \$1695, and was compared with 6 other bikes including an RD400 at 378 pounds, \$1219. The winner is not a "Sporting Middleweight", it's a touring light-heavyweight. A Yamaha 650 and Suzuki 500 could have been compared to it. And since you tested the Yamaha 400, the Honda CB400F should have been part of your test.

Next time, tighten up your definition of "Sporting Middleweight" and you'll have a fair comparison.

S.A. Macey
Vancouver, British Columbia

RUBBER ROOM REFLECTIONS

Just *loved* (with a capital L) your August article on the middleweights. But something strikes me as being rather strange

(read non-sequitur) about it. Here I am, sitting in my padded room, reading an article on sporting mid-sizers, enjoying rants and raves about a Yamaha 400 which seems to be the economy sports rider's dream, when I come to the end and find it kicked to 4th place (not even a bronze medal) because it isn't a good *touring* bike. Well, I screamed and cried until they unlocked my padded door, and watched as they pushed a nervous nurse into my room to see what was wrong. After two nibbles on the leg she finally turned my magazine page where I checked—and verified—that the article indeed was on *sporting* middleweights—the kind a *sporting* rider would buy. Well, the nurse left after another file-of-the-ankle (not that that has anything to do with it) and I sat for 3 days with my toes crossed trying to figure out what went wrong. I would like to suggest that you do a subject and stick with it all the way through the test. Still, you should be commended, (all my inmat - I mean friends think so) because as far as I can see you do a top notch job of testing bikes. And even though some readers are going to hang your ass from a tree, stick with it and keep giving us the most technical, comprehensive and informative comparisons in the motorcycle world. Though you do make your boo-boos, (to err is Cycle?) you're still the best.

(And if you don't print an answer to this, I'm going to eat a mash of garlic bread and injector oil and breathe it all over you. You know how long it takes to save enough money for a 13¢ stamp selling pet cockroaches?)

Abnormally Picky
North East, Pennsylvania

HONDA CB500T

Now I know every bike has faults but your comments on the Honda 500T were absurd. Certainly it vibrates, but not enough to "spin hoola hoops on the handlebars" or shake fillings loose as you imply. I've never had any throttle response problems, nor does the bike leap ahead and fall back on its own. Much of my riding is stop and go and I still average near 51 mpg, and I don't consider the clutch too grabby.

Its quiet exhaust doesn't offend me or my neighbors, and the engine doesn't click and whir as your test bike did. I find the seat and footpegs satisfactory, although the handlebars could be a little higher and pulled back more.



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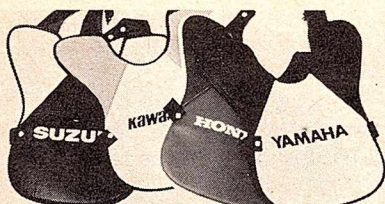
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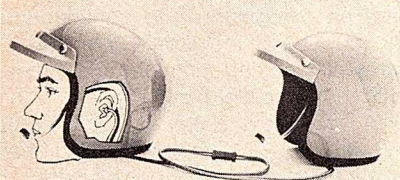


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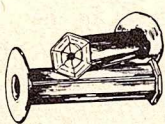


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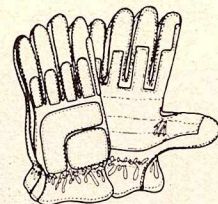


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Undoubtedly its bigger brother, the 550F, is a smoother bike, but just because you don't own one it doesn't mean you have "half a brain." I bought this bike because its design has been around a long time, it's durable, easy to maintain, it doesn't leak, and it's a darn good-looking machine. I've read other articles regarding the 500T, but never such slanted comments as yours.

Joe Kapp
Akron, Ohio

I just finished reading "The Sporting Middleweights" (Aug. 76), and I must say it was very much worth reading. I've been waiting for this article for a long time.

I was all set to buy the '76 Honda CB500T until I read this article. I have to admit that I was gravely disappointed to find that out of seven bikes you tested, my future purchase was at the bottom of the list. My second choice was, however, a little better; the Honda CB550F, coming in a very close second place.

I just want to say, the article seemed to be very honest and straight-forward and I thank you for that very reason.

Jeff Winder
Glenview, Illinois

I think your comparison test stinks. I have owned Harleys, Nortons, and just about every other English twin made. Now I buy a 1975 (leftover) CB500T. It can't be the same as your test bike! With two-up it rides fine. Good medium-range power, just the right size. I think your old test drivers forget the feel of a vertical twin and your young ones are brainwashed by 4 cylinder smoothness. Down with 2-stroke anythings and long live a bike that looks like, feels like, sounds like, and acts like a medium-sized all-around bike.

Robert McCarthy
Alexandria, Virginia

Choke . . . The format and presentation in your August article "The Sporting Middleweights" was the most interesting road test I've ever read on street bikes.

Gasp . . . and that was hard to say—because—in December, 1975, attracted to motorcycles at age 34, I bought my first bike, the BEAUTIFUL, ABSOLUTELY RELIABLE Honda CB500T. No, I did not order a backcopy of your Feb. 1975 road test before buying, and yes, one Honda dealer did tell me to buy the 550F instead, but for a total of \$1230 out-the-door, I believe I got quite a scooter. In 7,000 + commuter/sport miles that machine has given me far more pleasure than any consumer purchase I've ever made.

But (cough, sputter), you're right-on with respect to vibration (until riding a 750F a few weeks ago I didn't realize how much jiggle I really had), and up until reading your article, I thought my poor showing in mountain-type riding was totally my problem . . . however, for the money I spent, it's a fine bike.

Charles E. Muller
Cerritos, California

GEEK ATTACK

About 35 minutes ago some cretin in a Ford Stationwagon did his level best to add me to his front grill as the newest thing in hood ornaments. This was only the fiftieth time in the last month that some geek has tried to off me, and this kind of occurrence must certainly be no stranger to your readers. It would seem that the only thing that the average American driver respects is his opponents' capacity to commit violence. Few drivers will cut off an eighteen wheeler, for example. On the other hand, any poor bastard on a bike is fair game. The best means by which to rectify this situation, it is clear, would be to enhance the motorcyclist's violence potential. If the D.O.T. were to mandate the

equipping of all new motorcycles with a large handgun (May I suggest the superb .357 magnum?) as a standard fitting, it would act as an excellent equalizer. At last bikers would get some respect! If some turkey tried to cut you off, a warning shot through the head would quickly get and hold his attention. I predict a drastic decrease in motorcycle fatalities were my modest proposal to be instituted. The "Gee whiz, officer, I just didn't see him" style of accident would quickly come to an end as motorists began to see bikes in a new light. Don't delay, write your state or federal representative today and demand the passage and signing of the Blumgart Plan—the greatest single advance in motorcycling safety since the invention of the brake!

J. David Blumgart
Hyattsville, Maryland

KING STEVE, CLUB RACER

After watching Laguna Seca, I formulated an opinion that was reinforced by Kevin Cameron's excellent writeup on Loudon, to wit: King Kenny has abdicated the throne. King Steve has gained it.

The day is almost over when a superior rider, or handling, or engine could overcome a serious lack of the other two. (All right, so Gary Nixon's a dinosaur, there's always an exception.) The combination today must be all-inclusive. Baker has it, Scott is still looking, and Kenny's American Yamaha has let it slip away.

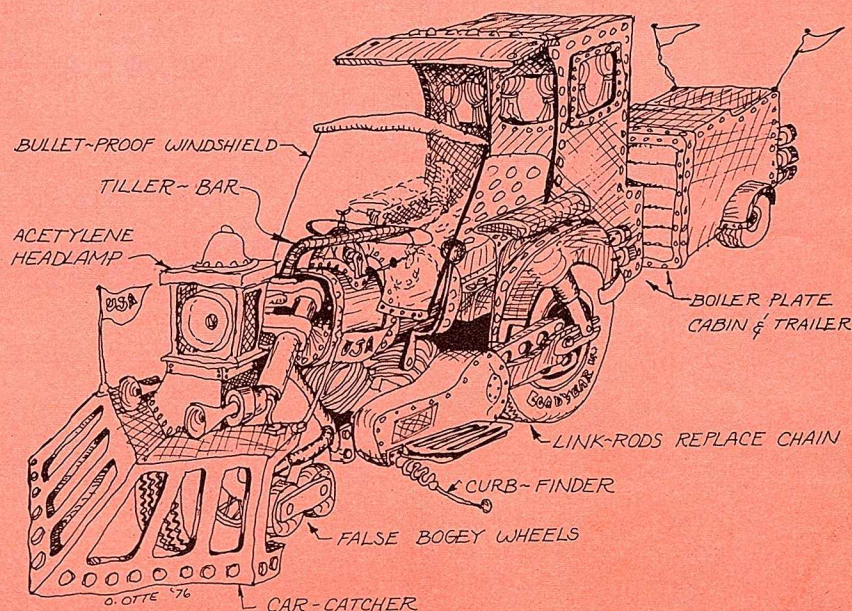
How have Steve Baker and Bob Work dethroned a king? Club racing! (Do I hear snickers?) Go to Westwood, or Kent, or Portland any weekend there's a race and you're likely to see Baker honing the best Yamaha can supply to a combination that works for him. I've roadraced for fifteen years and I know you can't find *all* your engine and handling problems on a com-

(Continued on page 97)

SURVIVOR

Here in the midwest we can hardly afford bench-racing, but rather concern ourselves with safety. This prototype "survivor" bike has the impact potential of an elephant gun. The cyclist is well protected in his cabin, and should any motorists fail to notice the huge headlamp, powerful horn, warning flags and so on . . . (including earth tremors?) and dare to pull out in front of "the survivor" . . . well, our cyclist can sit back and watch the results in relative comfort. How's that for a change?

Otho M. Otte
E. Lansing, Michigan





“...and a Starfire GT to go.”

This was no ordinary Saturday. I had just driven away from the Oldsmobile dealer with my brand new 1977 Starfire GT. And I was feeling good.

My hand gripped the 5-speed stick,* and I felt the 231 V-6 move out. I drove past Mary Lou's house a few times and took the opportunity to test the horn. She came out, along with the rest of the neighborhood.

Mary Lou eased nonchalantly into the high-back bucket seat. But I could tell she was mesmerized by all the gauges and instrumentation. We decided to go to the drive-in. Hopefully, everyone would be there.

On the way, I took it through the



S-curves on Johnson Road. I knew Mary Lou would be impressed with the way the torque-arm suspension and stabilizer bars handled the turns. (Even I was impressed.)

What an entrance we made. And Debbie, the car hop, doesn't faze easy. Maybe it was the star-spoked wheels that got her. Or the GT body stripes. Or the fat, raised white-letter tires.

Anyway, I told her, “the burgers are to eat here, but the Starfire's to go. And boy, does it go.”

One trip to the drive-in in my Starfire GT, and I was convinced. They built one for me.

*Available option.



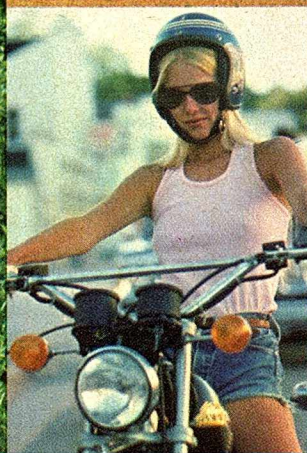
Oldsmobile
Starfire GT

Can we build one for you?

CIRCLE NO. 75 ON READER SERVICE PAGE.



**THE
ADULT TOYS
FROM
DODGE.**



Just because you're grown up doesn't mean you can't have toys. And some of the toys you're going to like the best today come from your Dodge Dealer's store.

Feeling a little wicked? There's the new Warlock. It's a Dodge Utiline pickup with extra factory-added touches like spiffy wooden slats, gold-colored road wheels, bucket seats, chrome running boards, and special tape striping. In dark green metallic, bright red, or bad black.

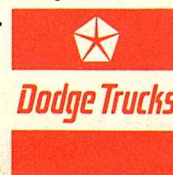
Remember when you used to play with trucks? You still can, with Dodge Ramcharger. It's roomy and comfortable—on or off the road. Get it with available full-time four-wheel drive to carry you up and over the hills of pleasure. And why not add available options like chrome wheels, knobby tires, or even an AM/FM radio?

And if you're old enough to play in the streets, get into a Dodge Street Van. High-back Command bucket seats,

carpeting up front, fat tires, road wheels, a customizing idea kit—and nonstop fun. Comes in two wheelbase sizes: 109-inch and 127-inch.

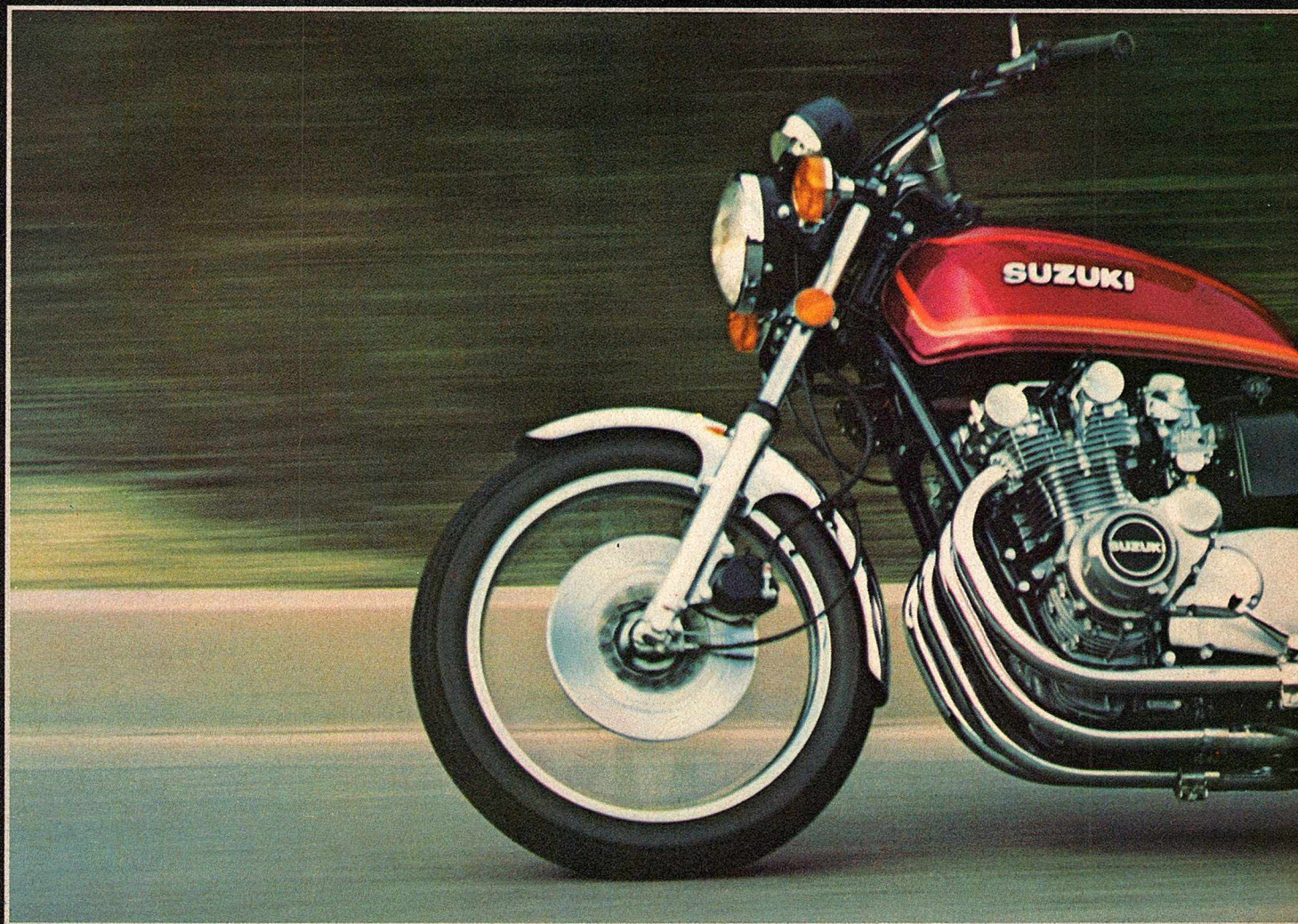
Come on. Play with an adult toy from Dodge. You'll find the entire collection at your Dodge Dealer's.

Street Van front spoiler, side pipes, roof vent, portholes, and paint design are B.Y.O. (Buy Your Own) at custom shops.



A PRODUCT OF
CHRYSLER CORPORATION

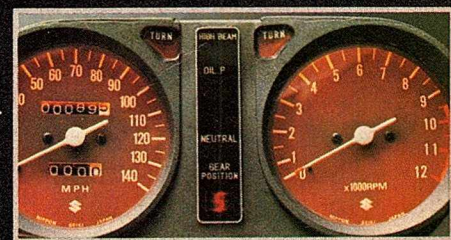
Suzuki's GS750 4-stroke four. "It is without question



If you're a 4-stroke man. A 750 4-stroke man who demands exceptional performance, handling, comfort, and reliability, there is only one bike in the world you want. Suzuki's GS750.

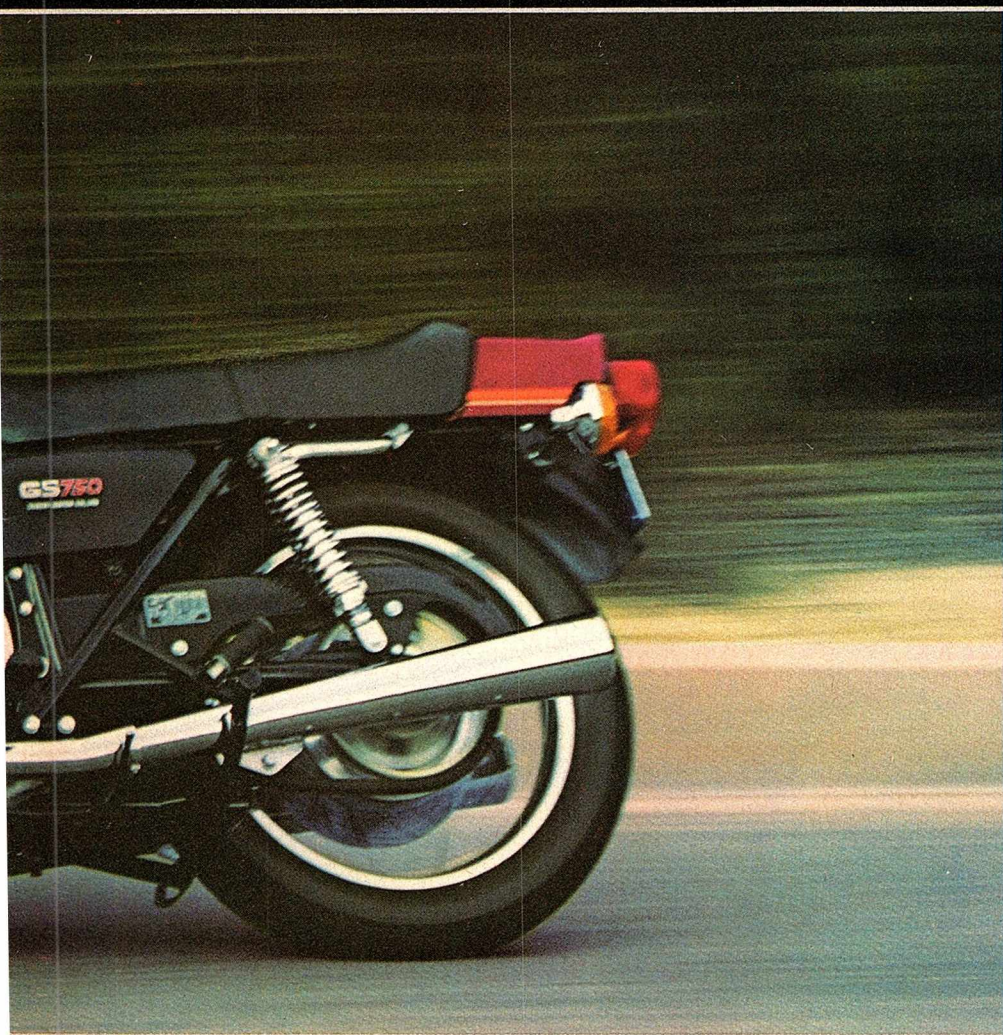
Don't take our word for it. Take Cycle's.

"Engine performance can only be described as perfect. Carburetion is perfect... on spot gearing makes the bike easy to use in any situation... The Suzuki engineers wanted the GS750 to be a good performer; they also wanted it to be comfortable over the long haul. It is, mostly because of the suspension." And when the need for real speed arises, be secure in the knowledge that the GS750 is fast. "No bike in its class has the red line engine speed set so high (9500 rpm). It is the fastest 750 you can buy." In addition, Suzuki's GS750 is quietly stylish, beautifully proportioned, unobtrusive, carefully built..."



"Astro-lighted" instrument panel. Full instrumentation includes digital gear indicator.

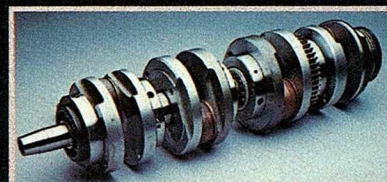
the best motorcycle in the 750 class." Cycle (Sept. '76)



Needle roller bearings at race eliminate crankshaft friction; improves durability.



Dual overhead cams: Allows higher rpms. PLUS: specially hardened camshafts for added reliability.

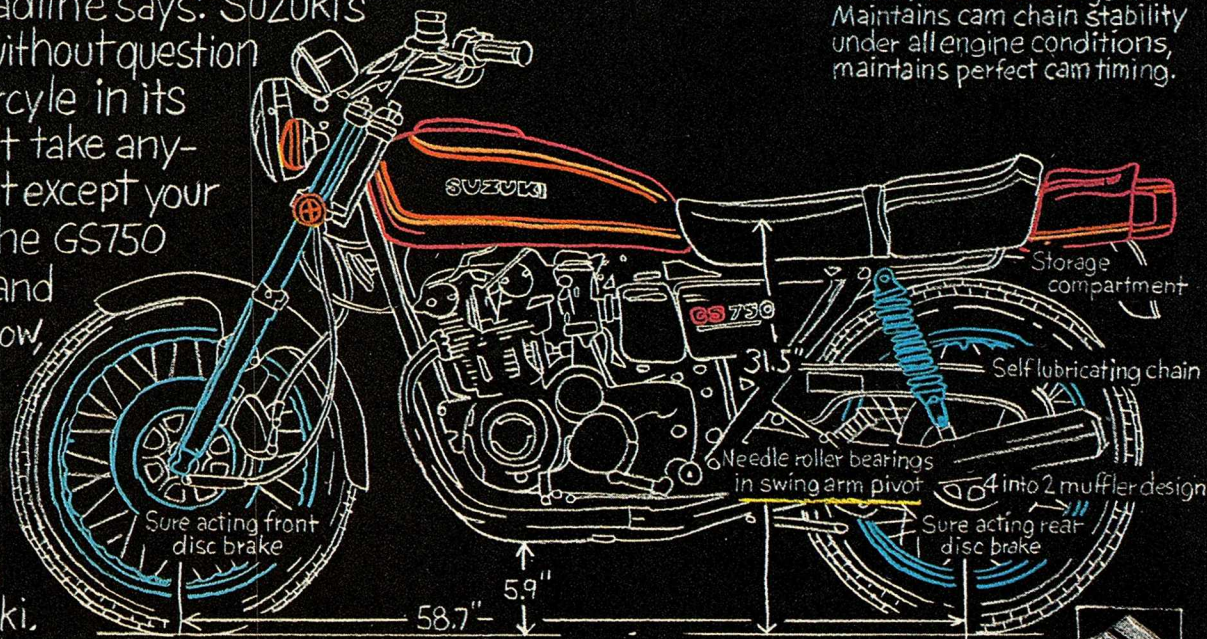


Due to exceptional crankshaft balancing, engine performance at all rpms gives smooth, vibrationless ride.



Suzuki Exclusive: "Posi-Tension" automatic cam chain adjuster. Maintains cam chain stability under all engine conditions, maintains perfect cam timing.

As the headline says: Suzuki's new GS750 is without question the best motorcycle in its class. But don't take anyone's word for it except your own. Go see the GS750 for yourself - and discover why now, more than ever before, you can forget your troubles when you get on Suzuki.



FORGET YOUR TROUBLES. GET ON SUZUKI



CIRCLE NO. 72 ON READER SERVICE PAGE.

**More horses, more torque,
more travel and a new
five-speed transmission.
Jump on and blast off!**

Honda's popular XR-75 has undergone a technical renovation this year and the results are sensational. To see what we mean, just climb aboard one.

Feel the improved engine performance, thanks to a new carburetor, special high-performance cam and a larger intake valve. The 74.9cc engine delivers maximum horses at 10,500 rpm!

Discover the dynamite combination of the Honda high-performance engine and the new five-speed transmission. The extra gear gives

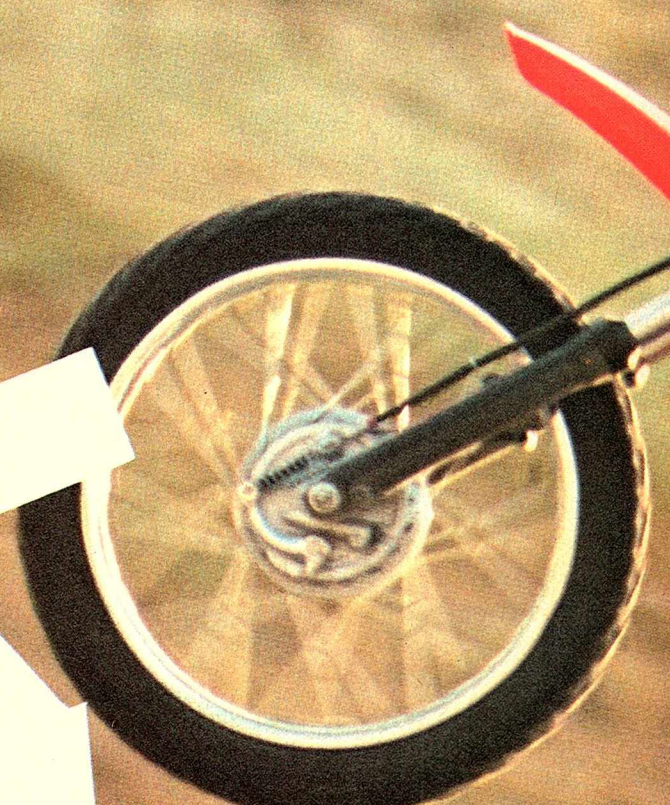
you more ratios to choose from and makes going fast much easier.

Blast the XR through the roughest sections of the track. The longer travel forks and the cantilevered rear



Always wear a helmet and eye protection when riding. Designed for off-road, operator use only. Model availability may be limited.

XR75



shocks provide Grand Prix-type suspension, keeping your racer on a straight and true line. And when it's time to slow down and set up for a corner, you'll really appreciate the XR's powerful brakes.

Now stand back and check out the rest of the machine. Flexible plastic fenders and molded side panels are used for light weight and

durability. Knobby tires for traction. And the Team Honda bright red paint that instantly tells the competition you've come to do business.

The XR-75 is just one of Honda's championship-caliber race bikes. There's also the ultra-quick CR-125M and explosive CR-250M. Tough bikes to beat on any track. So go down to your Honda dealer and get yourself a

winning partner. From the new XR-75 to the fire-breathing CR's. With Honda, you'll be going strong. And going fast!

HONDA

GOING STRONG!

For free brochure, write: American Honda Motor Co., Inc., Dept. YW, Box 50, Gardena, Calif. 90247. See Yellow Pages for nearest dealer. © 1976 AHM.



CIRCLE NO. 82 ON READER SERVICE PAGE.

Introducing Fact. The low gas, low 'tar'.

You might not know it, but cigarette smoke is mostly gas—many different kinds. Not just 'tar' and nicotine.

And despite what we tobacco people think, some critics of smoking say it's just as important to cut down on some of the gases as it is to lower 'tar' and nicotine.

No ordinary cigarette does both. But Fact does.

Fact is the first cigarette with the revolutionary Purite™ filter. And Fact reduces gas concentrations while it reduces 'tar' and nicotine.

Read the pack. It tells how you get the first low gas, low 'tar' smoke with good, rich taste.

Taste as good as the leading king-size brand.

And that's not fiction.
That's a Fact.



Available in regular and menthol.

Fact: The low gas, low 'tar'.

Warning: The Surgeon General Has Determined
That Cigarette Smoking Is Dangerous to Your Health.

Regular, 14 mg. "tar," 1.0 mg. nicotine, Menthol,
13 mg. "tar," 1.0 mg. nicotine, av. per cigarette, by FTC method.

© B&W T CO.

Minority Sport

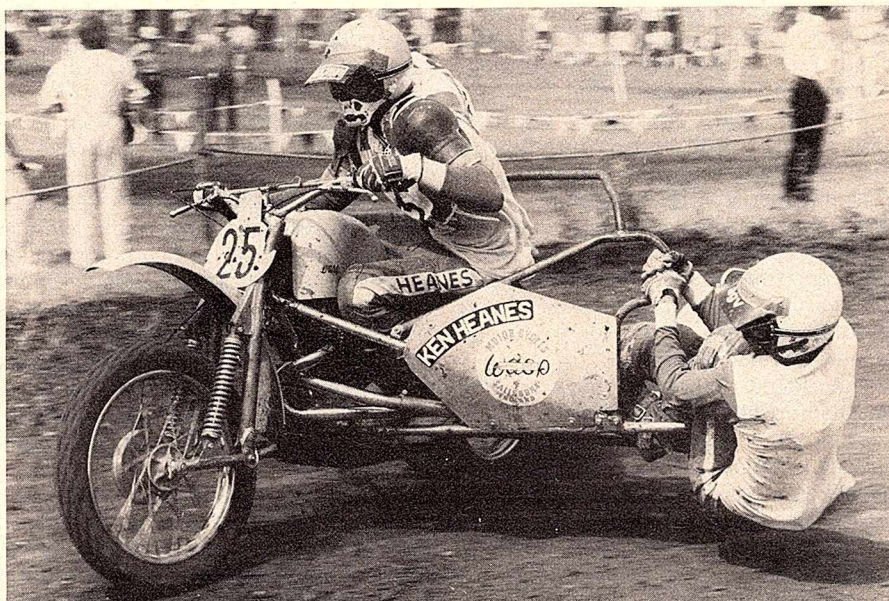
• Sidecar driving/riding is fun. Or it's pole squatting, masochism, exacerbation and lunacy. Sidecarring is a love-hate relationship. So naturally European sidecar-driving minorities happily defy conformity, and create alarm and confusion by taking to the public highways and byways. But other lovers of the bike-and-chair conglomeration actually practice their lunacy in competition.

There is the road racing minority where competitors are still officially "sidecar" crews, although modern methods of construction have destroyed nearly every trace of the traditional and conventional sidecar. In fact the mini-diameter wheel/racing car suspension/monocoque chassis conception defies all reasonable attempts to equate racing sidecars with racing motorcycles.

However, it requires less imagination and effort to see sidecar-cross vehicles in the motorcycle definition. The three-wheeled motocrosser has scale and proportion compatible with all known notions of sidecars. The bike side of the outfit presents a bike-like appearance with engine, frame, forks and tank assembled in their rightful positions. The chair side offers only the barest suggestion of passenger accommodation because the basics are a platform, a set of grab rails and toe holds, and a third wheel holding the lot up. But overall the contraption is clearly a bike-and-chair.

Sidecar-cross is a European minority sport—the poor relation of motocross—with its own championship and set of values. This alternative sport feeds on motocross's mass spectator following to survive. Sidecars perform between solo championship races, and solos are fillers at sidecar GPs; but while solo-only events are run-of-mill, exclusive sidecar meetings are rare-to-non-existent. The first-time watcher at sidecar-cross discovers another world, a world where motocross terms and basics are inadequate for description and analysis. If solo champions exude *style*, then sidecar aces represent *blunt force*. Solos sailing off jumps may be poetry in motion, but there's nothing lyrical in a riot of asymmetry as the ragged outfits brutally perform takeoffs and landings on one, two or three wheels. Sidecar-cross is a spectacle, but it is not a pretty sight.

Three-wheelers arrived on the international sporting scene when numbers of sidecar-cross nationals attracted the attention of international organizers. In the



Side-hack motocross? It exists as mad, ragged, muscular and more or less professional sport in Europe.



The 750 four-stroke twin is alive and well here, though side-car MX rules allow the use of 1000cc fours.

beginning sidecars injected novelty, variety and added spectacle into motocross proceedings, and some of the ace sidecar performers were paid accordingly. As time passed the FIM with its partiality for championships gave the sidecar men a European series to call their own. But at the same time organizers invoked the unwritten promoter's law that any competitor chasing championship points is bound to race on whatever terms the promoter offers. Befitting a minority group unversed in militancy, the sidecarrists suffered authoritarianism meekly and prepared to withdraw behind national

frontiers, leaving the international series to expire from lack of money. But instead of dying, the sport was saved by the FIM's system of guaranteed minimum start/expense money, and this system kept competitors on a subsistence at one step removed from poverty.

Weekend racers to a man, the sidecar crews can make ends meet or show a small profit on the season providing they collect some sponsorship and purses on the way—and assuming they don't smash too many engines or have jobs demanding undivided attention, Fridays and Mon-

(Continued on page 18)

days. When it comes to collecting sponsors, Continental mainlanders are more adept than the British islanders; that probably reflects the different economic climates North and South of the English Channel. Some sponsored crews can afford smart Mercedes-Benz transporters, while the less fortunate may be seen sporting cars and trailers one rattle removed from the junk yard. At top international level the haves comfortably outnumber the have-nots, though nobody would ever admit the fact. On the other hand, there would be no shortage of contenders for a pauper's title.

Sidecar racers are looked upon as slightly crazy and madly heroic, and they're not above proving the point. This year in France they raced in blinding dust and suffocating heat after the 250cc GP competitors walked out. The chair men raced and suffered, not out of heroism nor to save the promoter from exasperated spectators. They raced for the lousy money, and nothing else.

The sidecar exponents have no distinguishing characteristics like glassy eyes or nervous twitches. Drivers are big and some passengers are slight, and the drivers are generally more muscular than their passengers. A unifying trait is a reluctance or inability to explain why they participate in such a crazy-brained minority sport. When pressed, drivers fix their eyes 50mm past your right ear, mumbling something to the "Well, why not?" effect. Passengers are stricken inarticulate at the very idea of anyone probing into things that nobody can possibly be expected to know, let alone justify. And how do you explain the art of volunteering for the fall-guy and junior position in a partnership?

Perhaps the crew man enjoys the unsung-hero role and derives immense pleasure from being a part of a team. Obviously driver/passenger harmony is vital to a winning team, even though the inner workings of a successful partnership must forever remain a complete mystery to the outsider. It must be telepathic: when two men perform separate and different functions in the uproar, dust and heat (or mud and cold) of sidecar-cross action, direct communication is next to an impossible task.

Mix charioteers with sololists and then walk around them. The majority of limpers hail from the solo ranks. That's not to suggest sidecar stability produces crash-free racing, only that the results are less permanent and evident. End-over-enders, for instance, are rather rare. Racing with sidecars breeds concern for fellow sufferers, and the competition is low-profile compared to win-at-all-costs sports. Psyches, if any, are not openly paraded—and that does suggest that small rewards and incentives allow camaraderie to flourish.

Expert passengers are major assets, not only because drivers need experienced assistants but because passenger

turnover is high. The occupational hazards of passengering are considerable. Sudden and uncontrolled changes in motion can simply eject unfortunate passengers. And when hanging-out, the passengers may be rammed or rundown by the opposition. Passengers, not drivers, are the main sufferers from heat exhaustion and general physical wear and tear after long hard races (30 minutes + 2 laps). The difference is not a question of fitness. Put it down to passengers who sag under the mental strain of facing dangers over which they have no effective control whatever.

Top sidecar-crossers come from countries weak in motocross; from Austria, Holland, Britain and Switzerland in particular. The dominant figure of the last three years is Robert Grogg who lives in Switzerland, which isn't surprising since the Swiss are strong on sidecar-cross. Britain's number-one, Nick Thompson, is as good as any most days, but so far he suffers from the English weakness of winning races and losing championships. The Holland line is strength in depth, headed by Ton van Heugten, the champion in 1975.

Sidecar-cross regulations permit 1000cc engines, but the upper limit is 850cc in practice and by popular vote. Nobody has attempted to introduce tweaked KZ900 units into sidecar-cross machines, and although one CB750 (in the capable charge of Switzerland's Lorenz Haller) was top in 1973, the monster multis failed to gain great favor. Drivers couldn't live with the power-surge, wheel-spinning, high-revving Honda characteristics. And installing the wide engines also proved a drawback.

For a change two-strokes slump to an insignificant minority, reflecting the narrow choice in 750cc two-stroke engines. Brave Belgian Boudewijn De Kort alone tried a Kawasaki triple, and that succeeds well enough. For the rest, the prospect of controlling a 750 Kawasaki stroker and an outfit at the same time seems discouraging enough. The other two-stroke option is a motocross single screwed into a lightweight combo. In theory this arrangement provides a better power-to-weight ratio as well as offering the crew a less fatiguing trip. Unfortunately single-cylinder motocross power doesn't deliver when faced with steep hills, deep sand and bog mud.

No sidecar-cross engine is ideal, but every engine is a compromise born of necessity. The engine must produce winning results in sand and mud and on rock-hard going; it has to be tractable and rugged; it must provide good low-medium-range torque and reasonable horsepower, and act reasonably free revving. Bear in mind that nobody manufactures specialized sidecar-cross engines, and the best anyone can manage is a street-production unit. So the reasonable com-

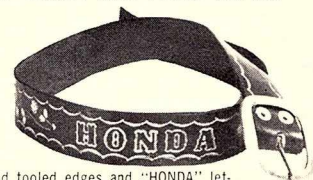
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GIFTS and



DEERSKIN RIDING GLOVES
Comfortable, snug fit, contours to hand. Smooth, supple deerskin allows full control of road feel. Elastic hugs wrist. Ideal for spring, summer, fall. Black or Tan. Men: XS, S, M, L, XL. Ladies: S, M, L. Pr. \$13.50

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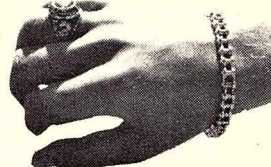


BELT Hand tooled edges and "HONDA" lettered. Heavy antique brass style buckle. Small, med., lg., X-lg. Black or brown \$9.98



BIKERS WALLET Thick handcrafted black leather; with leather dividers and snap pocket. Brass finished snaps and chain; with snap on - snap off belt holder. Tooled HONDA insignia... \$9.95

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KICK'N GO FROM HONDA

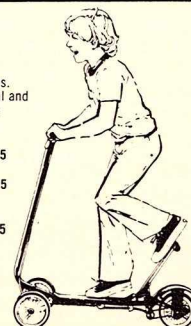
Fun and excitement for youngsters. A backward push on the kick pedal and off they go! Safe one-child power; squeeze hand brake to stop.

KICK'N GO Jr. 3-wheeler
For kids under 100 lbs. — \$30.95

KICK'N GO Sr. 3-wheeler
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KICK'N GO Sr. 2-wheeler
Steers like a bike. For kids up to 132 lbs. — \$40.95

All prices plus freight collect from Mineola (Disregard 5% freight charge in Order Coupon)



Use Order Form on facing page ➡

A Buzz In Time

Having had the misfortune of blowing an oil seal on a CB-350 and seizing the cam shaft I have been more aware of the importance of oil pressure.

Trading up to a new bike, a '76 550 four, I found it had an oil pressure light which is a good indicator—if one is looking at it at the time of pressure failure.

A single, quick and dirt-cheap way to keep you aware of oil pressure is to disconnect the turn signal buzzer and connect it to the oil pressure indicator lamp. I feel it serves a better purpose than reminding one to cancel the turn signal as you have a light flashing to do that.

To make the change, remove the headlamp exposing all wire terminal connections. Disconnect the brown with blue tracer wire, (it will go in a harness to the turn signal buzzer), tape the male end to keep it from shorting as it will be "hot" when the turn signal is on. Cut off terminal to buzzer, strip the wire and splice the wire into the blue with red tracer wire that goes to the oil pressure indicator light.

The buzzer will sound when ignition is turned on but will go off when the engine is started and oil pressure builds.

Anytime you are riding and the buzzer sounds, better hit the clutch and kill switch fast as the oil pressure is down.

James G. Logan, Sr.
Shelbyville, Kentucky

BATTERY REVIVAL

I have discovered that you can almost always save a dead battery, one that won't hold a charge. Batteries cease to hold a charge when debris produced by the electrolytic process accumulates on the bottom or between the plates of the battery and cause an internal short. Assuming there is no other problem (cracked case, neutralized acid, warped plates), you can restore your battery by cleaning it. The process is simple but effective.

The only equipment you need is a plastic or glass container to hold the acid, a plastic or glass funnel, and a garden hose. Do not use metal as it will react with the acid, and when selecting a funnel remember that the filler holes in your battery are very small.

First, pour out all the acid from your battery. Be careful not to spill or splash, and rinse the acid off immediately should any get on your skin.

After the battery is empty, flush out each cell with water from your hose. Use the highest pressure possible. Note that this part of the process is very messy. Select an area that will not suffer from a

little water—your garage or backyard.

Without pouring the water out of the battery, replace the caps on each cell and shake the battery vigorously for the few minutes. If you have some foam rubber to protect the case, you can rap the battery against some solid object. The goal here is to loosen all the crud in the battery so that it can be poured out with the water.

The next step is, of course, to pour the water out. It should be brown in color. Repeat this process until the water comes out clean, then return the acid to the drained battery. Charge on a trickle charger overnight and you should have no more trouble.

This may not work indefinitely, but even if it saves the cost of only one battery, it is worth the trouble.

Douglas Heil Banik
Roosevelt Island, New York

ECONOFLASHER

When your signal flasher burns up on your Kawasaki Z1, don't run to your friendly motorcycle dealer. He will charge you approximately \$7.10 for a new flasher when you can buy a similar unit at an auto parts store for under \$2 which will fit in the existing mounting bracket and work really great.

Peter M. Janke
San Leandro, California

LOOK, MA

Everyone likes a clean shiny motorcycle. A fast and easy way to keep your machine looking good between regular wash and waxings is with a quick shot of spray-type furniture polish. It puts a nice gloss on both chrome and paint with a minimum amount of time and effort. Look Ma, I can see myself!

K. W. Espenel
Troutdale, Oregon

LINE UP

I've recently discovered a measure to prevent a machine from giving way under its own weight when parked on particularly hot days, and especially in asphalt parking areas when the surface is as soft as butter.

Park your bike so that its side stand rests on a painted line. The lines have usually been painted once or twice over a time, and offer a more dense and firm built up surface with which to support the weight. Also the paint is usually white or yellow which reflects the heat. There's a noticeable difference in temperature and softness.

Now, I discovered the forementioned too late as I one day this past summer returned to my GL 1000 and finding it on its side with a hole in the asphalt from the side stand big enough to lay telephone cable in.

Because of this mishap I've found a good touch-up paint for Honda's GL 1000 Candy Apple Red. The pod and side panels are plastic and I've discovered that testor's ruby red model paint is a very close match. It comes in a small bottle and can be applied with a fine modeling brush.

Nancy Jackson
Glendale Heights, Illinois

GASKEPAINT

After replacing the head gasket on my Honda Four twice in the first five thousand miles because of leaking, I found what I consider to be a relatively simple solution.

Since the leaking seemed to be the result of soaking through the gasket, allowed by the low torque limits of the aluminum engine components, on the third disassembly I coated the new head gasket heavily with spray paint. Care was taken to fully coat the edges of the holes for the oil passages. The gasket was sprayed twice and when dry enough to handle was installed as usual.

The small amount of paint on the inside edges of the gasket cylinder bands burns away and causes no problems.

This method was used successfully on my own 350F and on a friend's 750F. My bike has logged 4500 miles and the 750F has just returned from a cross country trip of over 7000 miles and neither bike shows any signs of the leakage around the head that has become a trademark of most Honda street machines.

James Peoples
Sacramento, California

SPRING SAG

The quality of the stock springs on Japanese motorcycles is notoriously poor, so if your street bike has very many miles on it the springs are probably sacked out. Since the front springs are, for the most part, "out of sight—out of mind" it's likely you haven't even noticed their gradual collapse, the attending compression of your front forks, or the concomitant reduction of rake and trail. What you may have noticed is the bike doesn't feel as stable as it used to and very precise throttle control is necessary to make smooth U-turns. To cure this condition you can either buy accessory springs

or pre-load your present ones. Automotive valve springs often work well for internal springs and spacers for external springs can be made from wood using one of those cheapie nest of hole-saws.

The meticulous two-stroke maintainer de-carbonizes his head regularly, but may encounter some difficulty getting the carbon that builds up in the threads below the spark plug's reach thoroughly removed. Though largely harmless, these deposits sit heavily on the conscience of a precisionist. A thread-chaser would remove them, but presents two problems; first, you probably don't own one and second, many models chase more threads than desirable. The solution is as close as your last fouled plug. Make a series of shallow notches around the end of the threaded portion of the plug to construct an efficient, yet gentle thread-chaser.

Larry Carr
Lansing, Michigan

BACKPACKER

Here are a couple of tips for those who occasionally have the need to carry various objects on their bikes, but do not want to tie up a lot of money in chrome luggage racks and fiberglass saddlebags. I have found that equipment made for bicyclists can be very useful. A bicyclist's backpack is about the only way I know of carrying a complete lunch to work (besides a tank-bag) and not have it end up squished beyond recognition or bruised to death, as it does in a conventional saddlebag. These backpacks are streamlined, waterproof, durable, and well adapted to carrying a large variety of objects, from a tennis racket to school books. Mine is a Camp Trails Pedalers Pack, but there are others as suitable.

Another useful item to temporarily increase your bike's carrying capacity is a set of Vag Bags. These are waterproof nylon saddlebags you can throw over the rear portion of a double seat. Vag Bags

are especially good for carrying heavier objects, as they are placed over the rear shocks. They also have velcro loops in strategic locations for fastening the bags to your bike. On a recent cross country trip I used them for my kitchen: carrying stove, cooking pot, spare fuel bottles, two weeks worth of freeze dried food, etc. When stopping at a roadside park for lunch or a snack, I could lift them off the bike and take them right to the table. Everything needed was immediately and easily accessible.

Rex Wright
San Antonio, Texas

Address all correspondence to: Gordon Jennings, "Tips," CYCLE Magazine, 780-A Lakefield Road, Westlake Village, California 91361. Please type neatly, if possible.

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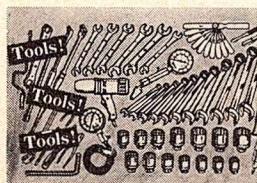
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Falling Starrs

Falling Starrs: The long-rumored demise of the Dale-Starr organization, officially known as Yoshimura Racing, Inc. and located in Simi Valley, California, took place on August 28, 1976. The creditors held a well-attended foreclosure sale which left, we're told, nothing but an echo. The Dale-Starr organization will be remembered chiefly for its Z-1 Production bikes which won Daytona (David Aldana), Laguna (Yvon duHamel) and Ontario (duHamel again) in 1975. Pops Yoshimura long ago severed his connection with the now-defunct Yoshimura Racing, Inc. The real Pops is still very much alive and in business. You'll find him at Yoshimura R&D of America, 5517 Cleon Avenue, North Hollywood, California 91601.

ISDT Wombat: One of Cycle's guides on The Great Dirt Donk Expedition to Oregon was Scott Hudson, half of the notorious Hudson Brothers who are employed by Pabatco as test riders. "If one of those madmen can't break it, it won't break," said Hodaka executive Marvin Foster in



explaining the brothers' job. In addition to being a human chassis dyno, Hudson modified a 250 Thunderdog and won a Gold Medal in each of the three Six-Day Qualifiers he entered this year. Another Pabatco employee, Ed Chestnut, earned one Gold and two Bronzes on a 125cc Wombat.

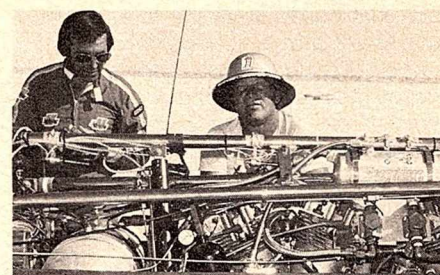
Going Up: Did you think there was a limit to long-travel suspension for motocross GP bikes? Consider this. The Type II Hondas began the 1976 season with nine inches of travel in the front, and eight-point-five in the back. The bikes finished the season with 10 inches to travel front and rear. Okay, now for the next step. Roger DeCoster's factory Suzuki began the 1976 season with 10 inches front and rear, and closed with 11.5 in front and 10.5 in back. His 1977 bike, it is reported, will have 12 inches of travel, front and rear. So in the past ten years, suspension travel has doubled in front, and tripled in the back. By 1987 you'll need a step ladder just to get on a motocrosser.

Bonneville: It comes but once a year, and seems to be as much a social event as it is a quest for speed. Which for 1976 was a good thing: the rains came on Sunday and the wind blew Wednesday afternoon, leaving the racers plenty of time for the social niceties. Between the periods of inclement weather there was time for 23 new records to be set, six of which were established not by pavement bikes but by heavily modified dirt bikes. Marc Camp and Doc Murdock established new standards in the 100cc and 175cc classes, and Henry Brigham set four new records with a 175cc Can-Am.

Concurrent with an ongoing pattern of dirt bike success on the Salt is an annual reduction in the number of new records set. In 1969, for example, 64 new speed records were established, about three times as many as were produced in 1976. Reason? Simply, the record book is filling up. There are few vacant records left, and the ones that do remain have minimum speeds appended to them. Cherry-picking at Bonneville is no longer a possibility, and more and more we're seeing records only a few mph higher than the previous existing records. Some real record-blasting still happens, however. Don Vesco jumped all over a 500cc streamliner minimum (130.000mph) with his 195 mph

Wednesday shot and did the same to a 170.000mph 1300cc streamliner minimum with the meet's fastest time: 252.229.

Bob George's double-74 streamliner, the most exciting bike at Bonneville, had its standard share of teething problems.



Driver Dave Campos (left) and tuner/helper Leo Payne with Bob George's double-74 'liner.

Propelled by a brace of enormous Electra-Glide engines with water-cooled cylinders, driver Dave Campos got by the 125 and 150 mph trials easily, but went belly-pan up at 175. The rig, a two-speeder, has a first gear good for 280 mph—and Campos can drive it away from a dead stop. With a conservative 300 bhp. on tap (Vesco's record-holder has about 220), the George blunderbuss has only just begun.

(Continued on page 94)

BONNEVILLE RECORDS

Class	Old Record	New Record	Make	Rider
P-100-1	65.696	69.828	Penton	E. "Doc" Murdock
MPS-AF-100-10	98.455	102.748	Honda	Bryan Bowns
M-AG-125-3	99.289	110.043	Yamaha	Dale Ebersole
A-AG-125-5	101.770	102.917	Yamaha	Peter W. Breede
A-AF-125-6	103.659	105.164	Yamaha	Peter W. Breede
M-C-175-2	90.847	93.147	Can-Am	Henry Brigham IV
M-AG-175-3	100.938	101.207	Can-Am	Henry Brigham IV
M-AF-175-4	98.322	103.833	Yamaha	Tim Durkee, Jr.
A-AG-175-5	92.512	106.944	Can-Am	Henry Brigham IV
A-AF-175-6	100.905	106.315	Can-Am	Henry Brigham IV
APS-AG-175-11	101.251	104.146	Penton	Marc Camp
M-AG-250-3	99.214	102.247	Suzuki	Bill Petrie
MPS-AG-350-9	121.436	148.727	Yamaha	Brian H. Erickson
MPS-AF-350-10	147.462	148.604	Yamaha	Brian H. Erickson
M-AF-500-4	132.637	137.219	Suzuki	Ralph Hudson
S-AG-500-15	130.000	195.282	Yamaha	Don Vesco
P-650-1	105.000	115.698	Triumph	Jon Minonno
P-750-1	135.244	136.674	Honda	John Cunningham
M-AG-750-3	136.249	141.284	Kawasaki	Tony Nicosia
A-AG-1300-5	152.388	157.722	Kawasaki	Randy Milligan
APS-AG-1300-11	161.052	165.069	Kawasaki	Randy Milligan
S-AF-1300-16	170.000	252.229	Yamaha	Don Vesco
A-AG-3000-5	175.502	188.692	Kawasaki	Tom Elrod

SOME OF THE BEST PART-TIME JOBS IN AMERICA TAKE ONLY A WEEKEND A MONTH.

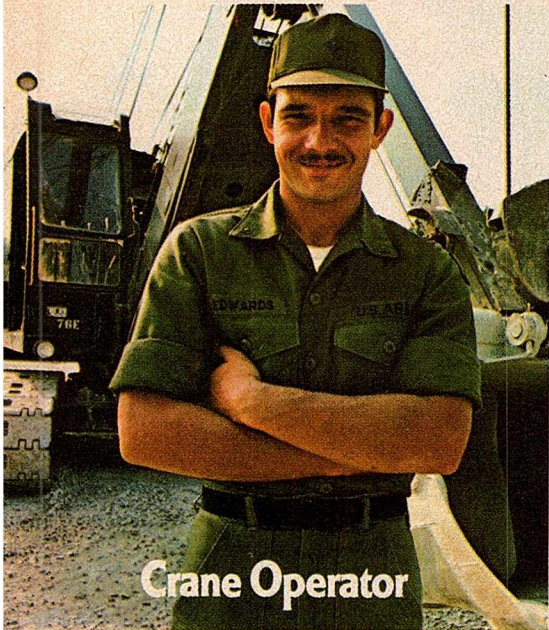
You know that enlisting in the Army Reserve is a good way to serve your country. But did you know that it's also a good way to serve yourself?

As a part-time job, the Army Reserve will give you a good second income along with more benefits-per-hour than most part-time jobs. From free job training to automatic raises to retirement income.

Even the hours are good. After a few months of training at full Army pay, you'll work only 16 hours a month (usually a weekend) and just two consecutive weeks during the year.

Of course, serving in the Army Reserve will earn you something that even most full-time jobs won't—the pride that comes from serving your country.

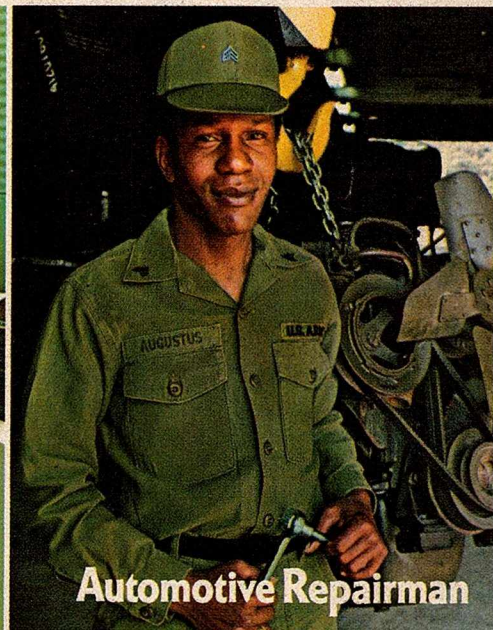
THE ARMY RESERVE. PART OF WHAT YOU EARN IS PRIDE.



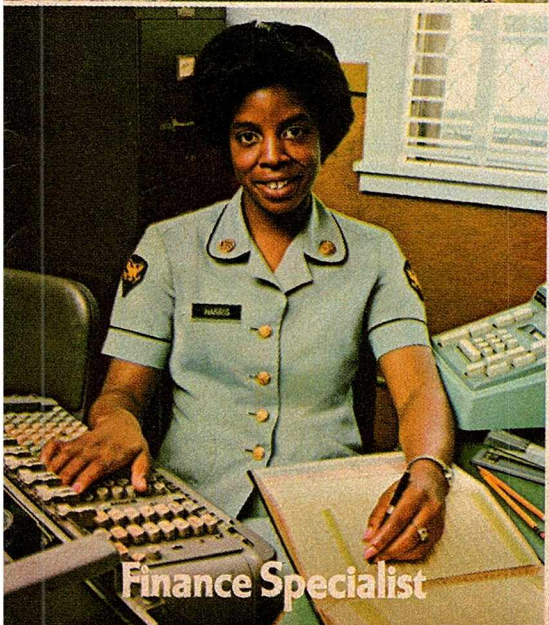
Crane Operator



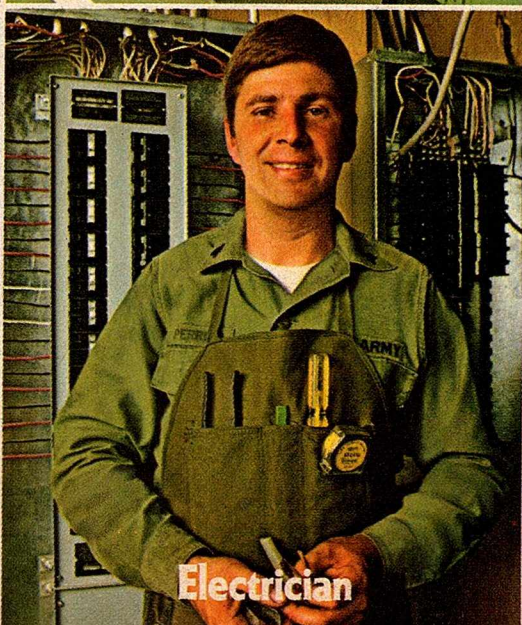
Personnel Manager



Automotive Repairman



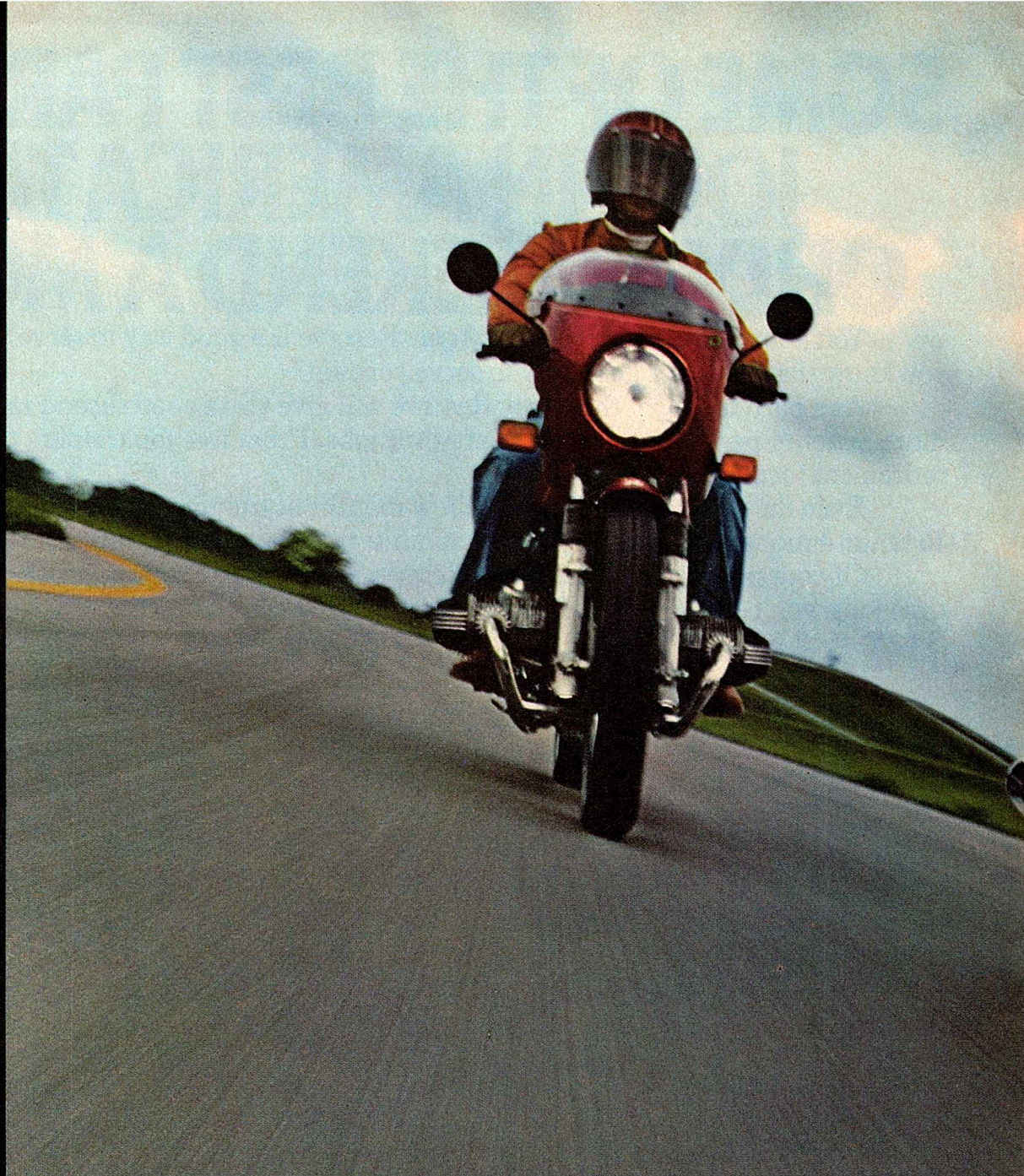
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“Once again, the best bike you can buy has gotten better.”

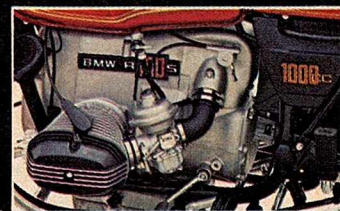
At BMW, there's no such thing as resting on laurels. Because no matter how fine our motorcycle is, we keep on searching for ways to make it even better. It's a continual process of honing, polishing, perfecting. All designed to make every BMW the most reliable, safe, comfortable, high-performance machine it can possibly be.

For 1977, we've made quite a few changes. Some you can see. Some you can't. But all are improvements.

The BMW has been upped to 1000cc displacement. In both the R100/7 and R100S models. Not for raw horsepower, mind you. But for a higher and broader torque curve. So you have more pull in any speed with any load. Big peaky, high rev horse-

power numbers may move bikes out of the showroom, but it's big torque that makes bikes move on the street.

To reach 1000cc meant larger pistons. But not heavier pistons. Because our engineers went back to their boards, designed new pistons, and specified a lighter alloy. And lighter means smoother.



You'll find many other changes in the 1977 BMW's. New starter gear ratio for even stronger cold starts. New, higher amperage battery. A new crank-case ventilation system. New footpegs. Even a new,



richer-sounding horn.

There are some detail changes you can't see, too. We redesigned the engine housing to make it even stronger. Made the swing arm even more rigid. Redesigned the frame. Not because they had any weakness in '76. But because we were going to the stronger engine in '77.

Look at our new gas cap. Looks great, sure. But much more important is how it works. It's flush. So it's safer. And inside is a special expansion chamber. So what's slopping around inside never gets outside.



Notice the new tank. Beautiful, very. But also larger, so our already long range motorcycle can go even further.

Compare the 1977 BMW with any other bike

of its size. You'll find us lighter, simpler, more comfortable, and more fun to ride than you ever imagined. Of course, this kind of honing and perfecting doesn't come cheap, but what great things ever do?

Go to your local dealer. See the 600cc, 750cc and 1000cc BMW's for 1977. Check out our exciting new colors. Examine our technical changes and improvements. We think you'll agree that the best bike you can buy has just gotten better. You'll find the dealer in your Yellow Pages. U.S. Importer: Butler & Smith, Inc., Norwood, NJ 07648/ Compton, CA 90224. Canada: BMW Motorcycle Distributors, Ontario. Write for our colorful free brochure.



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CIRCLE NO. 65 ON READER SERVICE PAGE



KAWASAKI KZ650

Think of it as a squeezed-down Kawasaki Z-1,
Or as a Honda CB550 with muscle-power,
Or as a 750 snorter—with short legs.

● The small Z-1 was inevitable: success breeds imitation. And if you want to talk about success as measured in the world of commerce, complete with sales charts that go climbing up-and-up and bottom lines that have figures big and black, then consider Kawasaki's Z-1. The King Superbike has been a King Money-Maker. So it seemed natural that Kawasaki, a manufacturer who made it in America with performance, would return to the well again after building the KZ400 and KZ750 for the lunch-bucket market. If Kawasaki hadn't built a compact Z-1, someone else—as we know now—would have. And did.

In the hard world of commerce, achievers get imitated, and the imitators get imitated. There is developing, after all, a kind of Universal Japanese Motorcycle. The Great Moto-Japan Factory brings out these mechanical clones, conceived in sameness, executed with precision, and produced by the thousands. The clone-print is well known: transverse, air-cooled, in-line four-stroke, single-or double-overhead camshafts, four cylinders, five speeds, disc brakes, silent mufflers, perfect electrics, interlocks, outerlocks, idiot lights and safety slogans—and so on to the next clone. Sneer not; the concept is widely applied because motorcyclists vote for it with their money. Yes, there's progress; second-generation machines are usually better than the first-generation ones. With UJMs it's repetition that improves the breed.



KAWASAKI KZ650

There isn't much maneuvering space available within the concept, but there are a few ways that a major manufacturer can distinguish his UJM from others, principally engine displacement and physical size. Once upon a time motorcycles could be blocked out into neat displacement-and-size categories, but today all the market-jockeying has blurred the old lines. Now you can find every gradation in displacement and physical size.

Presumably Kawasaki picked their ground carefully for the new four-cylinder bike. The KZ650 falls into a traditional displacement class, but one that has been virtually abandoned since the demise of the Triumph 650. The 498-pound KZ650 is substantially heavier than the CB550F Honda (455 pounds), but lighter than Suzuki's GS750 (532 pounds) or the Honda CB750F (538 pounds) or the larger Z-1 (542 pounds).

Price-wise the KZ650 walks a center-line. Its suggested retail price of \$1995 POE West Coast drops it right between the 500/550 intermediates offered at roughly \$1800, and the 750s which list in the \$2200 range.

Physically the KZ650 is larger than the CB550 Honda, and that makes the new bike seem much more like a small Z-1 than a big Honda 550. Old-time 650s, such as the lightweight Triumph 650 Bonneville, were big 500s, but the new KZ four comes into the 650 class from the other direction. It could be, and maybe it should be, a 750.

There is another way—and Kawasaki knows it—to distinguish a new UJM: performance. In everyday motorcycle terms, performance doesn't mean suspension compliance, or ride comfort, or ease of round-town handling. Performance means engine performance, horsepower which reads out as acceleration in the quarter-mile. It's the American Standard.

You find no presents under a dragstrip Christmas tree. The clocks respect no reputations, read no advertisements, offer no understanding and give no sympathy. The quarter-mile clocks are indifferent; the times just *are*. Matched against smaller bikes, such as the CB550, the KZ650 is a rocket, covering the quarter-mile in 13.53 seconds and running the traps at 98.14 mph. By comparison, the Honda is sluggish at 14.47 seconds and 93.36 mph. Taken strictly as a 650, the Kawasaki is still impressive. It would hammer any 650, new or old.

But that's not what Kawasaki had in mind. They wanted—and proclaimed—a 650 which would dine on any 750. Outperform is their phrase, and only the feeble-minded could miss the quarter-mile implication. For the record, the KZ650 will choke on hard-running 750s (Suzuki GS750, 12.75 secs at 104.77 mph; Honda CB750, 12.94 secs at 103.92 mph). Ka-

wasaki's representatives conducted their own dragstrip tests under better atmospheric and track conditions than existed on our day at the strip, and their early testing returned figures of 13.14 and 99-plus miles-per-hour. But even these times won't let the KZ650 nibble on the Honda Super Sport or Suzuki's new GS750.

It's too much to ask even a first-rate 650 to run with a really good 750. No doubt some enterprising individual will hype the 650, but a strung-out, mass-produced 40-incher has no place in the Japanese order of things, where manners are mandatory. More performance can be pulled out of the new KZ. It presently holds a new Bonneville record in Modified/Altered/Gas-750cc. For the record the running gear remained stock, but the displacement went up to 738 ccs, courtesy of 66mm racing pistons; different camshafts were bolted in; and a quartet of Keihin 31mm racing carburetors were mated to a ported head. The result was 141.284 mph.

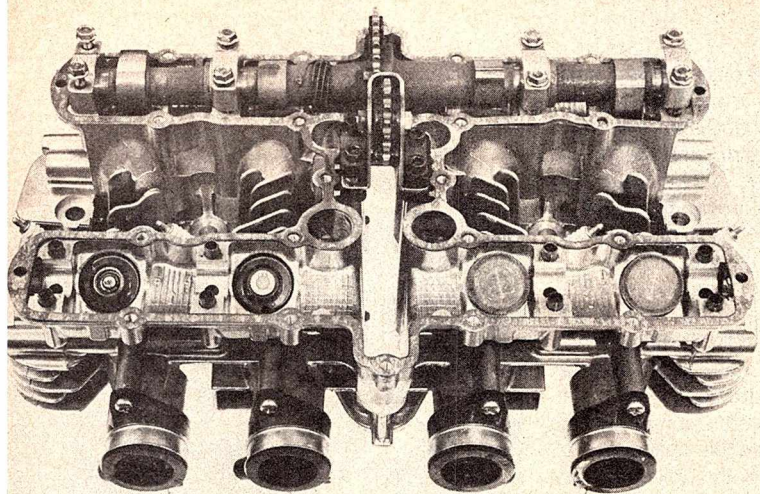
Though the KZ650 engine was designed by Ben Inamura, who also drew up the Z-1 engine, there are some significant differences between the KZ900 (current Z-1 designation) and the new 650. Z-1 valve-adjustment shims ride on the top of bucket lifters, where they are retained in shallow pockets. The cam lobes bear directly against the shims when actuating the valves. This system is very convenient because, with an inexpensive special tool, you can remove and replace shims in order to adjust the valve clearances—without disturbing the camshafts. This system is trouble-free unless someone installs camshafts with steep ramps, or consistently turns the engine into the five-figure zone. Then the camshafts can literally catch the corner of the shims and spit them out. That can't happen with the KZ-650. In an effort to eliminate any potential shim-spitting, hold down engine noise and lower production costs, Kawasaki engineers reduced the shims' size and moved them under the bucket lifters. The KZ650 shims fit into pockets in the tops of the spring collars and rest on the valve stem tips; the whole shim business is between the bucket lifter and the valve, not the lifter and the camshaft.

There's one catch. You must remove the camshafts to change valve clearances. It's a job that begins by pulling off the tank and ignition coils, and continues through the removal of the upper chain guide sprocket for the camshaft, etc. Extracting the camshafts is no major job for a competent mechanic (it isn't a minor one, either), and Kawasaki has provided enough scribe marks, legends, instructions and charts so that a novice could perform the operation with a workshop manual for guidance.

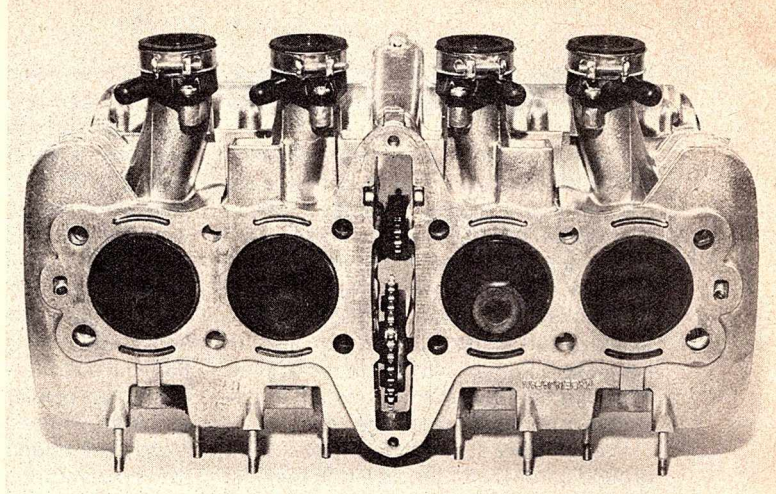
At least three problems exist. First, the adjustment procedure will be time-consuming initially and, depending upon the skill of the mechanic, maybe continually. Second, some dealers may wish to avoid,



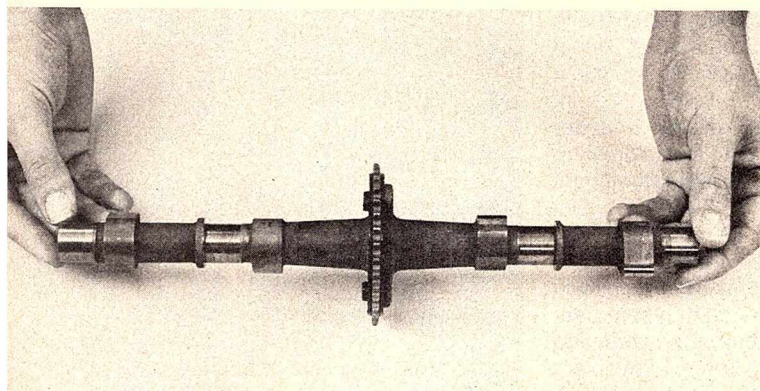
The best part of the new KZ650 is its eager and responsive engine



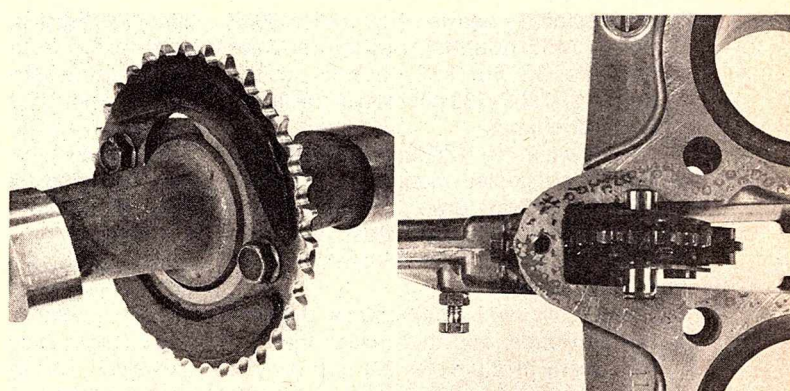
The camshafts run on plain bearings. At far left shim and lifter have been removed; next valve has shim in place; rightside valves have bucket lifters in place.



The KZ650 has long tracts leading to intake valves. There's room for larger valves—and the Bonneville record bike had 66mm bores, four mm over standard.



Each camshaft rides on four plain bearings, and both cams are run at half-crankshaft speed by an endless camchain driven off a sprocket on the crank.



Camchain sprockets have rubber bonded to sides to quiet running chain. Camchain tensioner (right) with guide sprockets, and roller below, is pretty standard.

KAWASAKI KZ650

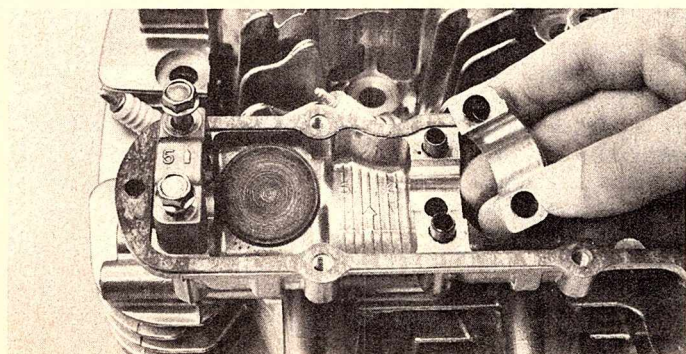
or will avoid, setting the valves, just because it's slower and more difficult than the Z-1 system, or because the dealer doesn't want to hear customers bark about the high cost of tune-ups. Finally, a sloppy mechanic could botch the job by leaving dirt on the plain-bearing surfaces in which the camshafts ride, or by severely kinking the cam chain on its lower crankshaft sprocket by turning the crank with the cam chain loose. The camshafts, incidentally, run on bearing surfaces machined in the head itself, unlike the Z-1 which has bearing inserts. Should a Dirty-Harry mechanic destroy a bearing sur-

face, or mix up the camshaft caps (hard to do; they're matched by number), he would ruin the cylinderhead.

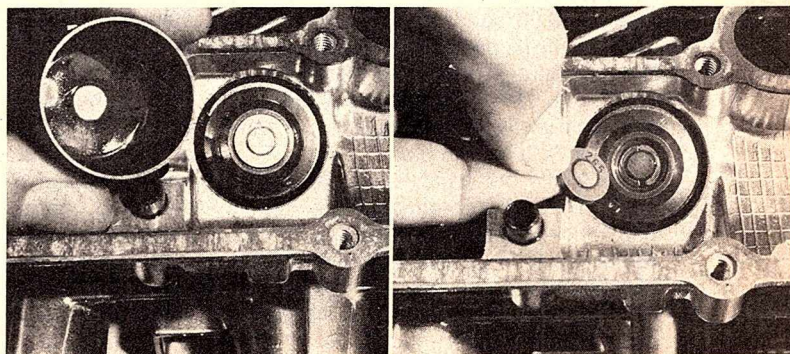
Once set, double-overhead-camshaft engines go a long, long way without further adjustment. Kawasaki specifies a service/checking interval of 5000 kilometers, or 3100 miles. Everything we know about the cam/lifter/shim/valve collar set-up—and Kawasaki's engineering—suggests that KZ650 owners will have a hassle-free experience with the valves after the initial adjustment. Under normal conditions of use, we would expect the KZ650 to run beyond 5000 miles without valve-lash re-setting.

The bottom end of the KZ650 is closer to a Honda CB550 in concept than to the Z-1. Kawasaki's big one has a built-up,

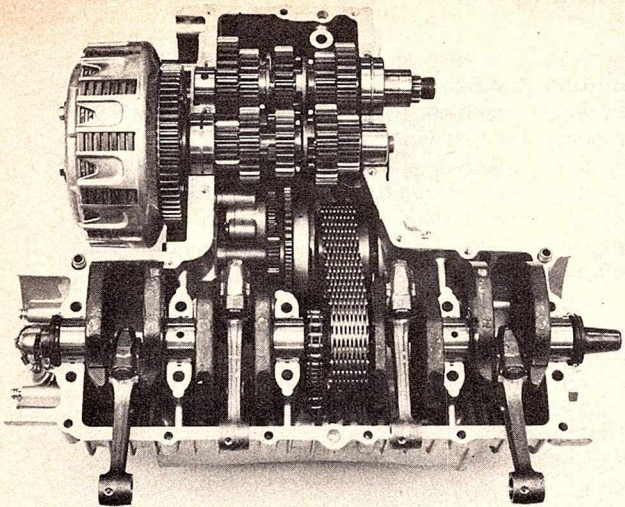
pressed-together crankshaft, with one piece rods and roller-bearing mains. The KZ650 has a one-piece crankshaft that spins in insert plain bearings with two-piece plain-bearing rods. A plain-bearing lower end is quieter, cheaper to produce, and easier to manufacture accurately than built-up crankshafts with ball or roller bearings. So long as a well-designed plain-bearing lower end gets enough clean oil at properly high pressures, it works just fine. Pressed-together crankshafts, composed of many pieces, don't necessarily have perfect alignment despite elaborate jigs that fit them together. It's not unusual to see a multi-cylinder engine with a built-up crank that has its crank throws two or three degrees



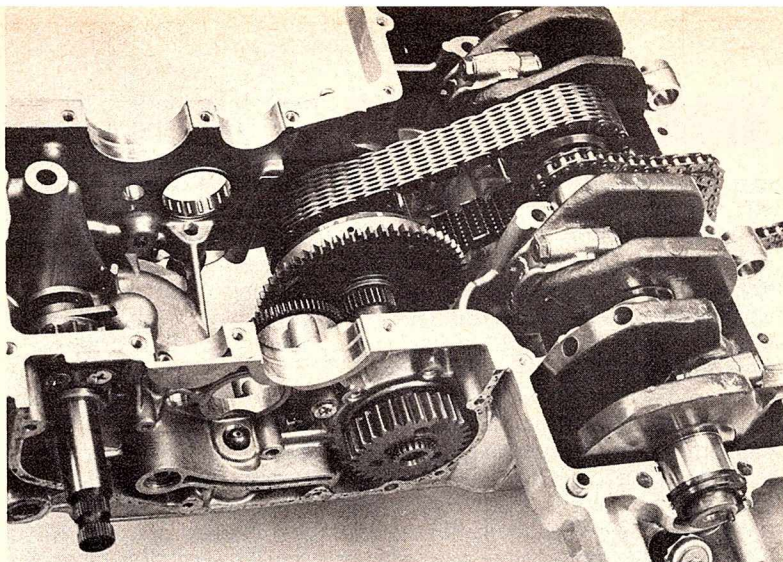
The bearing caps for camshafts are matched and numbered so that a mechanic can't mix the caps when the camshafts are pulled for valve adjustment.



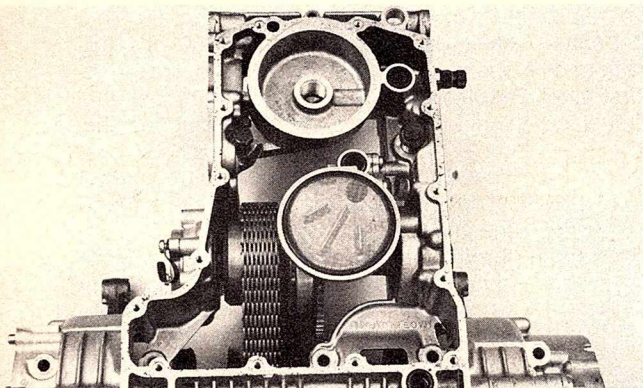
Shims which allow for valve adjustment are under lifter buckets. Shim numbers indicate thickness; this, together with workshop charts, aids adjustment.



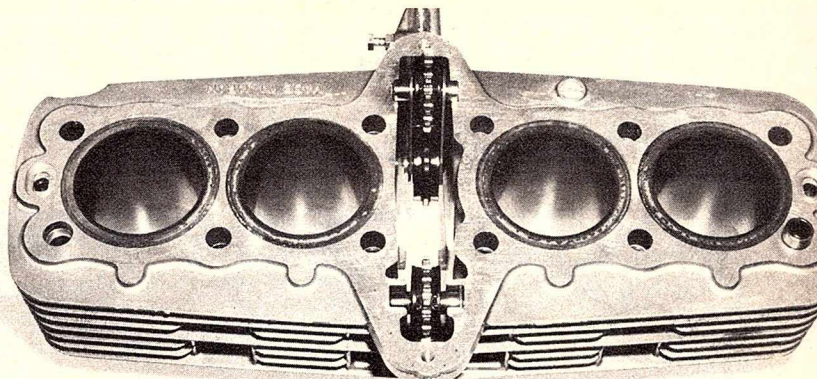
A one-inch Hy-Vo chain carries power from the plain-bearing crankshaft to a secondary shaft behind the crankshaft.



Secondary shaft carries oil-pump drive gear and electric-starter gear. Gear on shaft's end drives the clutch-drum gear. Hy-Vo primary sprocket has a cush-drive on the secondary shaft.



View from below with the oil pan out: oil filter fits into receptacle at top; the fine screen covers pick-up passage for the oil pump.



The 650's liners are thick enough and the cylinder-bore centers distant enough to allow for a considerable increase in displacement. Sprockets and roller are in place in the camchain cavity.

away from their blueprint positions. Quality production can be better controlled machining a one-piece crank. The operations are just simpler.

The KZ650 uses a Hy-Vo chain for the primary drive while the Z-1 has a take-off gear machined as part of a crank flywheel. On the 650 Kawasaki the drive sprocket for the Hy-Vo chain is inboard of the number-two cylinder's flywheels and adjacent to the camshaft-drive sprocket located in the center of the crankshaft. The Hy-Vo chain and its sprocket lengthen the crankshaft; an all-gear system, like the KZ-900, would have resulted in a 650 with a shorter crank.

In order to carry the power back to the clutch, the Hy-Vo chain drives a sprocket

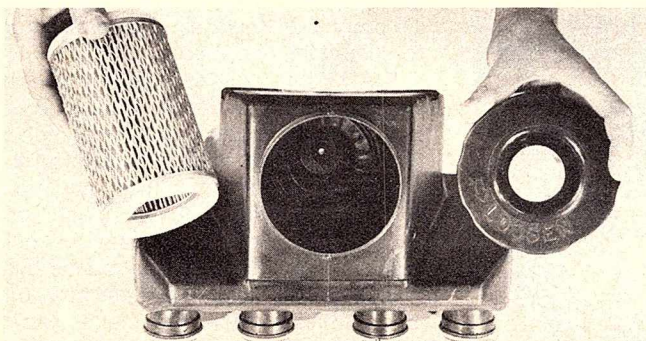
on a secondary shaft, located behind and somewhat below the crankshaft and its centerline. The secondary-shaft sprocket has a coupler with rubber dampers to smooth the power pulses from the engine. The starter-motor clutch-and-gear system is also on the secondary shaft, as well as the drive gear for the oil pump. And on the far right end of the secondary shaft is the gear that drives the clutch drum.

This Hy-Vo arrangement, long used in Honda 350, 400 and 500/550 multis, is less expensive to produce than direct crankshaft-to-clutch-drum primary gearing. In normal service Hy-Vo chains present no problems in motorcycles; however, in cases of extreme abuse and sustained above-redline running, Hy-Vo

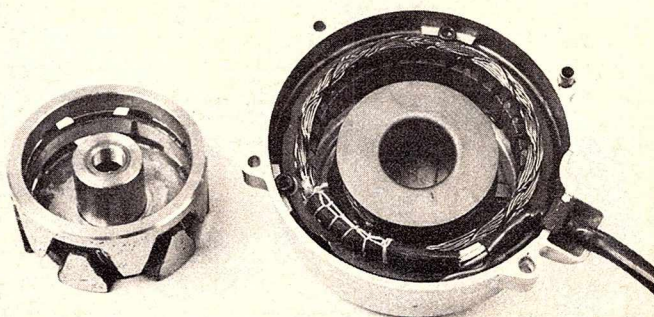
chains quickly limber up, or fail outright. Any number of highly-modified full-race 550 Hondas have broken engine cases, or worse, that testify to the racing limits of Hy-Vo chains.

The great advantage of Hy-Vo chains for normal, everyday riding is their silence. Gears clatter. Roller chains actually go around their sprockets in a series of flat-sided jerks, going yank/pause/yank/pause. But a Hy-Vo braces itself and then eases into engagement and gently pulls itself out of engagement. The nature of the chain eliminates the yank/pause delivery; the Hy-Vo action is much closer to that of a belt and pulley.

The 650's controlled-field alternator is also more nearly Honda than Z-1 in na-



Molded plastic airbox holds a pleated paper air-cleaner element, which can be changed in a jiffy by lifting the seat, removing the tank and cleaner cap.



This controlled-field alternator is very Honda-like. Rotor fits on crank end; outer armature and interior control-field are in outer cover.

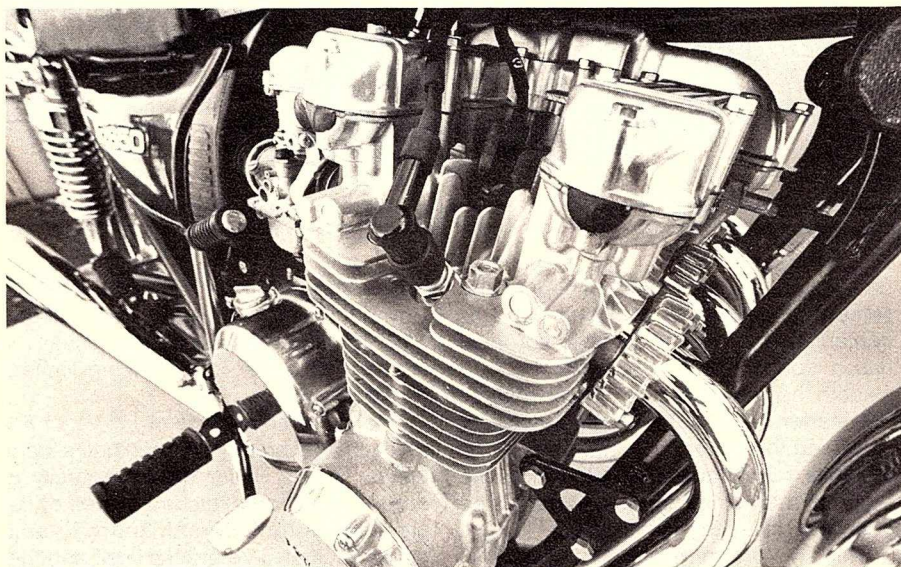
KAWASAKI KZ650

ture. A permanent-magnet rotor sweeps a field through the Z-1's armature windings to generate electricity, and its output—which varies with engine speed—is controlled simply by bleeding off any surplus voltage with a zener diode. But the 650's alternator gets its energizing field from windings fixed in its cover, and the generating windings are likewise fixed. And the crank-driven rotor is just a slotted drum that turns inside the circular gap between the fixed field and generating windings. In this arrangement the slotted rotor effectively chops up the magnetic field so that it reaches the generating windings as pulses, and inductance does the rest. It gives you a heavier alternator than the one in the Z-1, but its output is controlled with an automotive-type regulator, which switches the field on and off according to need, and in that respect it's a big improvement for Kawasaki.

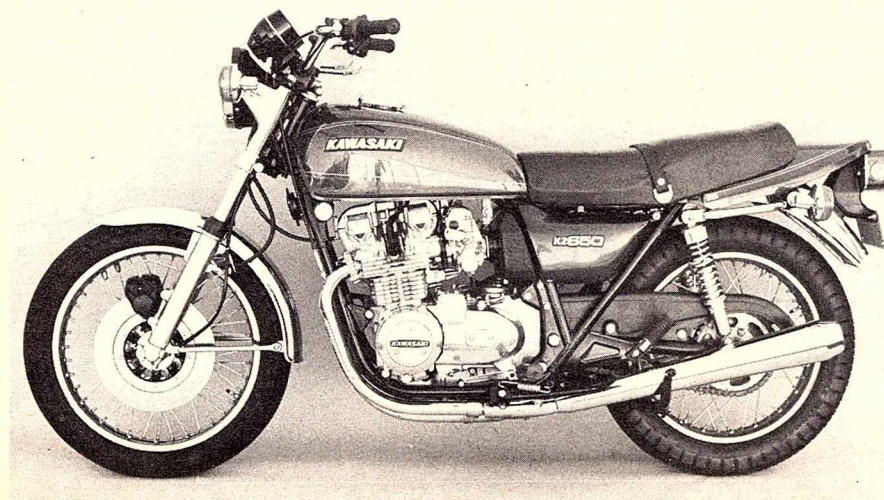
The KZ650 also has a better frame than the Z-1. Though it's built on the same

pattern as the 900, the 650 has a main backbone tube that's a quarter-inch greater in diameter and has more wall thickness to boot. The 650 engine mounts are far more substantial than the Z-1's tabs, but most impressive are the steel plates which tie the top three tubes to the steering neck; the heavy gusseting extends far enough to join front downtubes with the top-tube braces.

Although the steering neck is better tied to the swing arm pivot-pin mounts, and the engine is lodged in the frame more solidly than the Z-1, Kawasaki's super-strong chassis commitment faded at the swing arm. Apparently Kawasaki figured that the less powerful 650 could do with smaller swingarm tubes than the Z-1—which are marginal in terms of competition use. It's a bit ironic that the 650 hasn't a super-duty swing arm, in view of Kawasaki's obvious concern with the frame. Those who have race-modified Z-1 chassis have discovered a strong, tweak-and-twist resistant swingarm is the first, and most important, step in getting first-class handling from a Z-1.



Kawasaki wanted a quiet-running engine, so the near-49-horsepower 650 features Hy-Vo chain primary drive and a plain-bearing crankshaft. The new KZ has a space-efficient 4-into-2 muffler.



When you sit down on the KZ650, it immediately says big—not small—machine. Perhaps it's the fact that you sink down in the cushy saddle with a whoosh, or maybe it's the 4.4-gallon tank spread out in front of you, or just the comfortable span of the bars.

The safety-interlock conspiracy continues. The KZ650 will not start in any gear or in neutral unless the clutch lever is pulled in. It's cheaper to manufacture the device this way because a neutral-only over-ride (that would allow starting in neutral with the lever out) isn't needed. The lack of in-neutral, clutch-out starting is more aggravating than you might first imagine. Many riders have developed an early-morning cold-starting technique which calls for pushing the start button, reaching under the tank for the choke lever, and then fishing for the exact spot on which the engine will fire and run. You can't do that with the KZ650. It's full choke, pull the clutch lever in, leave the throttle closed, hit the button, get the engine running, and then close down the choke before the engine stops.

And there are a couple more control layout annoyances. Two staffers found the grips too hard for their liking, and the throttle return spring too heavy. More important was the brake-light idiot-lamp which lights up red when the brakes are applied. At night the idiot winker is really intrusive, especially on a winding road where the brakes are used often. The panel light is even more distracting at dawn or dusk, when your eyes are trying to adjust to changing light conditions.

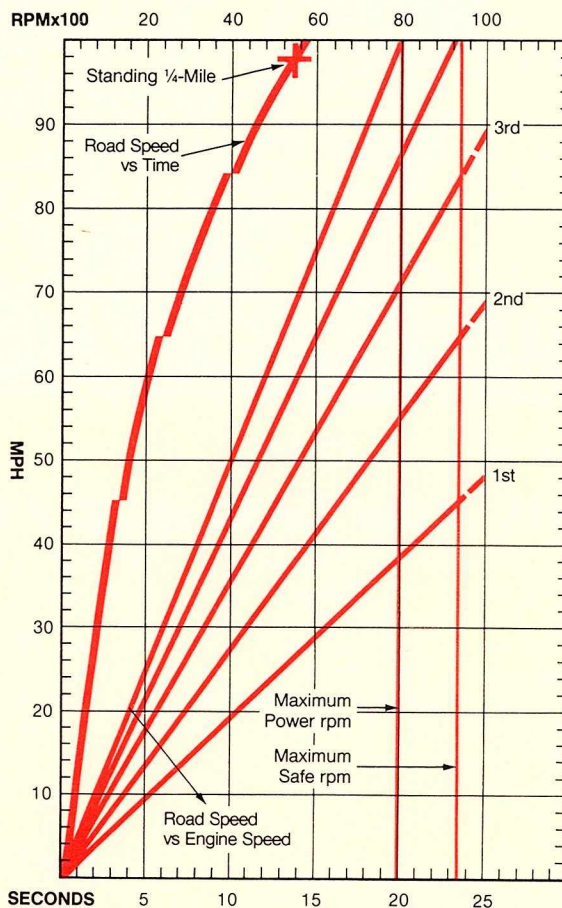
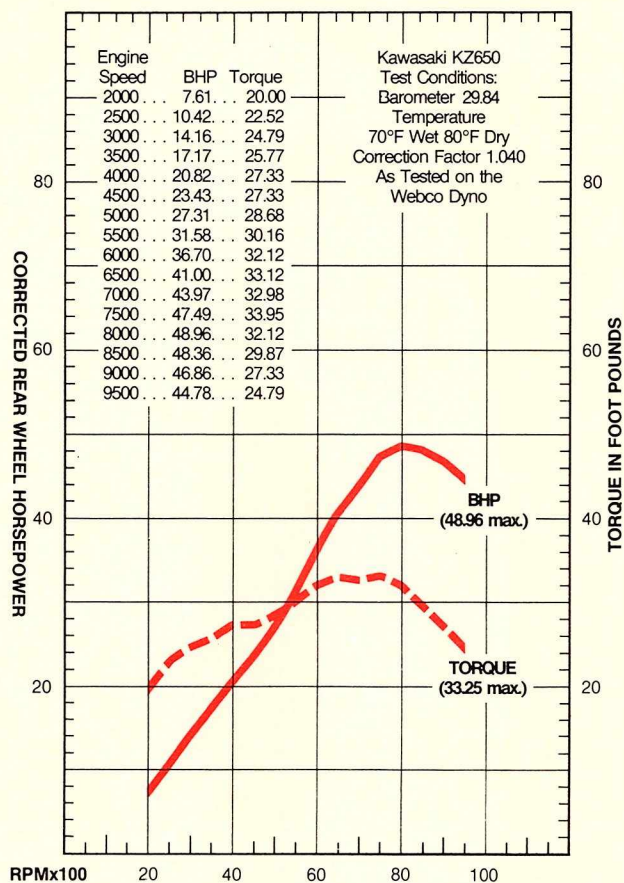
For a Japanese motorcycle, the KZ650 has very good drive-train action. The clutch lever draws quite easily, and engages evenly and gradually over a wide range. The gearbox shifts without difficulty or catches. The shift mechanism has a more positive feel than most Japanese bikes, and persuades the rider it's actually connected mechanically to the gearbox. There's another pleasing thing in the transmission of power: far less drive-line snatchery than is common in some Hondas and Yamahas. You don't shut the throttle, have the revs drop away, and then a half-instant later slow down with a lurch. The relationship between the KZ's pistons and rear wheel may not be as tight as in Italian roadsters (the best in this category) but connection is positive, and it's proof that Kawasaki has made progress in an important area.

The KZ650 exhibited a curious phenomenon that at least three staffers noted. You're running along at 60 mph or so, turning about 4600-4700 rpm on the tachometer, and almost involuntarily you find yourself nudging the gearshift, making sure the bike is in fifth. At some half-conscious level, the KZ650 sounds busy to the rider. Although Kawasaki has gone to great pains to quiet the engine, there's still enough whirring, before you get accustomed to it, to have you gear-check-



KAWASAKI KZ650

Price, suggested retail POE West Coast \$1995
 Tire, front 3.25H19 Dunlop F6
 rear 4.00H18 Dunlop K87
 Brake, front..... 10.75 in. x 1.7 in. x 2 (275mm x 66mm x2)
 rear 7.08 in. x 1.57 in. (280mm x40mm)
 Brake swept area..... 131.5 sq. in. (848.3 sq. cm.)
 Specific brake loading 5.11 lbs./sq. in. at test weight
 Engine type Four-stroke DOHC Four
 Bore and stroke..... 62mm x 54mm (2.44 in. x 2.13 in.)
 Piston displacement 652mm (39.8 cu. in.)
 Compression ratio 9.5:1
 Carburetion 4; 24mm Mikuni VM24SS
 Air filtration Pleated dry element
 Ignition Battery and coil
 Bhp @ rpm 48.96 @ 8000
 Torque @ rpm 33.25 @ 7500
 Rake/Trail 27° / 4.25 in. (108mm)
 Mph/1000 rpm, top gear 12.68
 Fuel capacity 4.4 gal. (16.8 liters)
 Oil capacity 3.7 qts. (3.5 liters)
 Battery 12V, 10AH
 Primary transmission 2.55; Hy-Vo Chain
 Secondary transmission 2.63 (42/16);
 Enuma Endless EK530SH-T20
 Gear ratios, overall (1)15.63; (2)10.93;
 (3)8.52; (4)6.97; (5)5.97
 Wheelbase 56.6 in. (1440mm)
 Seat height..... 31.5 in. (800mm)
 Ground clearance..... 6 in. (152mm)
 Curb weight..... 498 lbs. (225.9 kg)
 Test weight..... 673 (305.3 kg)
 Instruments Tachometer, Speedometer,
 Odometer, Tripmeter
 Standing start ¼-mile 14.53 @ 98.14
 Average fuel consumption..... 43.8 mpg
 Speedometer error
 Indicated 30 mph, actual 29.82
 Indicated 60 mph, actual 58.60





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ing. It's not exhaust noise, nor is the engine geared too tightly. Mechanically the 650 just makes more noise than a 550 Honda, or the rider picks up more noise from the Kawasaki engine—which actually turns a couple hundred revs slower at 60 mph than does the Honda.

Soon the rider gets the busy thrash behind him, and begins to enjoy the best of the KZ650, which is its engine. The 62 x 54 mm unit is remarkably smooth below 5000 rpm, where most highway cruisers will keep it. Unlike smaller displacement bikes, you can click the KZ650 into the opposite lane at an indicated 60 mph, crack the throttle and develop plenty of passing momentum. In this respect the bike is very 750-ish. While packing double won't paralyze 500/550-class motorcycles, hauling a passenger *and* luggage will flatten their performance. The KZ has enough power to cope with passenger-plus assignments without losing its zing. Only high altitudes took the clout out of the engine's midrange, but the 650 still had real punch above 7500 rpm.

Above 5000 rpm the Kawasaki vibrates, enough to make the mirrors useless at 5500 rpm and enough to vibrate everything—bars, seat and pegs—beyond six grand. But there's never so much quaking as to discourage the use of the 650's full powerband.

Assuming you exploit the engine on an empty highway, be prepared for a drastic collapse in gas mileage. Our overall average was 43.8 mpg. But very fast desert cruising yielded figures in the low thirties. At full-wick the four 24mm Mikunis really funnel the gas down the KZ's long intake tracts, and the Kawasaki isn't using the best stuff at the pumps either. The engine has been designed to take lead-free gas, so the KZ runs on an octane level (86-87) about one cut above tomato juice.

Our test bike did have one unhappy carburetion characteristic. After being run hard, the engine would immediately die away at idle, though it would then restart and idle evenly.

Long-distance riders may see in the 650 a new Japanese awareness of saddlery. Kawasaki is on the road to Comfort City, proceeding in fits and spurts. The KZ650 seat provides a good example. The padding is deep-cushion stuff, fit for an easy chair. You can get in 200 to 250 miles on the saddle before it starts to grow teeth. For cushiness it's fine, but the contours (flat top, slab sides) have nothing to do with the loaded-area shapes of sitting humans. With a better, more anatomical shape, the KZ650 might make a long long-distance perch. But we'll never know until Kawasaki catches up on suspension.

At the moment, the front runners in the comfy-suspension derby are the BMW, the Yamaha 750 and Suzuki 750. In terms of eliminating stiction, the Kawasaki isn't in the same league with the leaders; the KZ650 rates with current, 1976 model Honda 750 Fours. The KZ's overall sus-

CYCLE

pension compliance ranks far below the GS750 Suzuki, and everybody still trails Yamaha's 750 and the BMW.

When the KZ's front suspension encounters freeway ripples and seams, the rider gets a telegraphic jarring through the handlebars. That's nothing compared to the stiffing you can get from the rear end, which has the old Japanese one-two: springs too strong, dampers too limp. It's a curious state of affairs. Here Kawasaki is with a second-generation multi that has late first-generation suspension.

Fast mountain riding strengthens that impression. The high-speed handling lacks precision and predictability, thanks to the shocks—and perhaps the swing arm. Once the suspension fluids warm up, in fast corners the bike feels uncertain where it should go, and a good bump in a 70-80 mph arc will produce a wobble. Getting into a decreasing-radius corner at racing speeds with the brakes on will give the feeling that the front tire is sticking hard, but the rest of the machine is pivoting around that point, gyrating with more enthusiasm than we care for.

When the fork oil warmed up, the front suspension would lose about half its travel, as if in a hydraulic lock on compression. This behavior suggests overfilling; although the fluid level was to specifications, we suspect that the specs in this case are in error.

On balance, and if not pressed too hard, the KZ650 handles well enough, has adequate ground clearance for almost all riders (except 200-pound fliers who will ground out the centerstand on the left; it should be tucked in higher), but lacks the crisp handling of the CB750F and the GS750 Suzuki.

The disc front and drum rear brake are nicely matched. The front may be a tad more sensitive than the normal Japanese anchor, but it's always predictable and never fades. The motorcycle doesn't need a rear disc brake; the drum unit is sufficient, happily reluctant to lock the wheel or make it chatter. The Dunlop tires, made in Japan, are very good indeed. They add confidence to compensate for some of what the rear dampers subtract.

To a man, *Cycle* staffers liked Kawasaki's new 650. It's far too competent a motorcycle not to like. Taken by itself and for itself, as one staffer put it, the bike rates as highly satisfactory, bordering on excellent. At the same time no one was wildly enthusiastic about the KZ650; in part because it was bigger and bulkier and heavier than expected; in part because the bike was a half-step behind in suspension development; in part because the 650 represented a kind of refinement through repetition, characteristic of UJMs; and in part because the machine didn't—and couldn't—deliver on its advertisement performance billing.

The KZ650 is new without being new. That really doesn't matter. But it's also new without being exciting. And that does matter. ●

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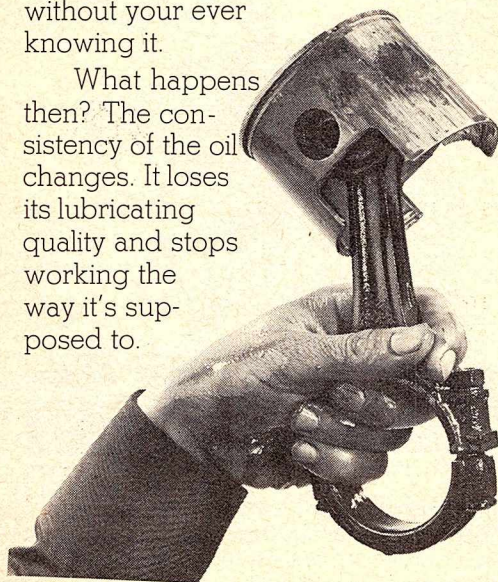
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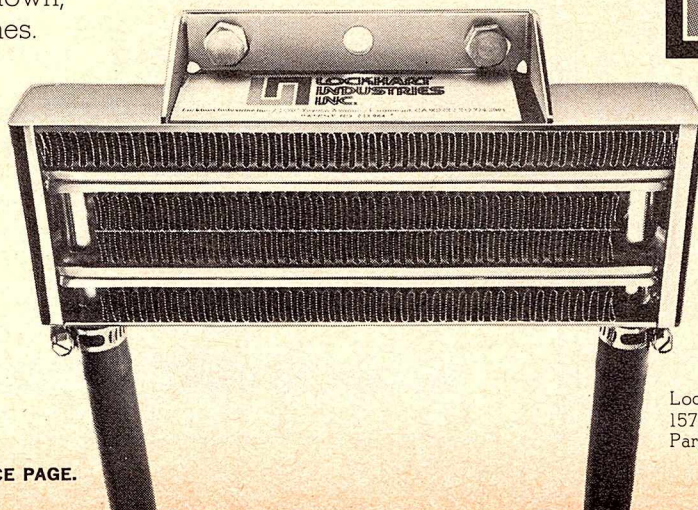
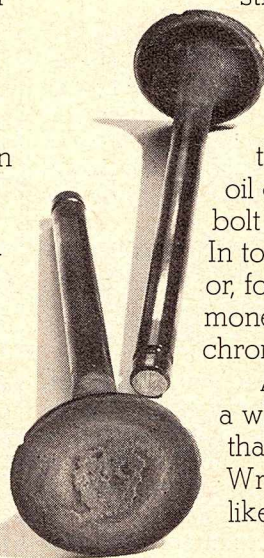
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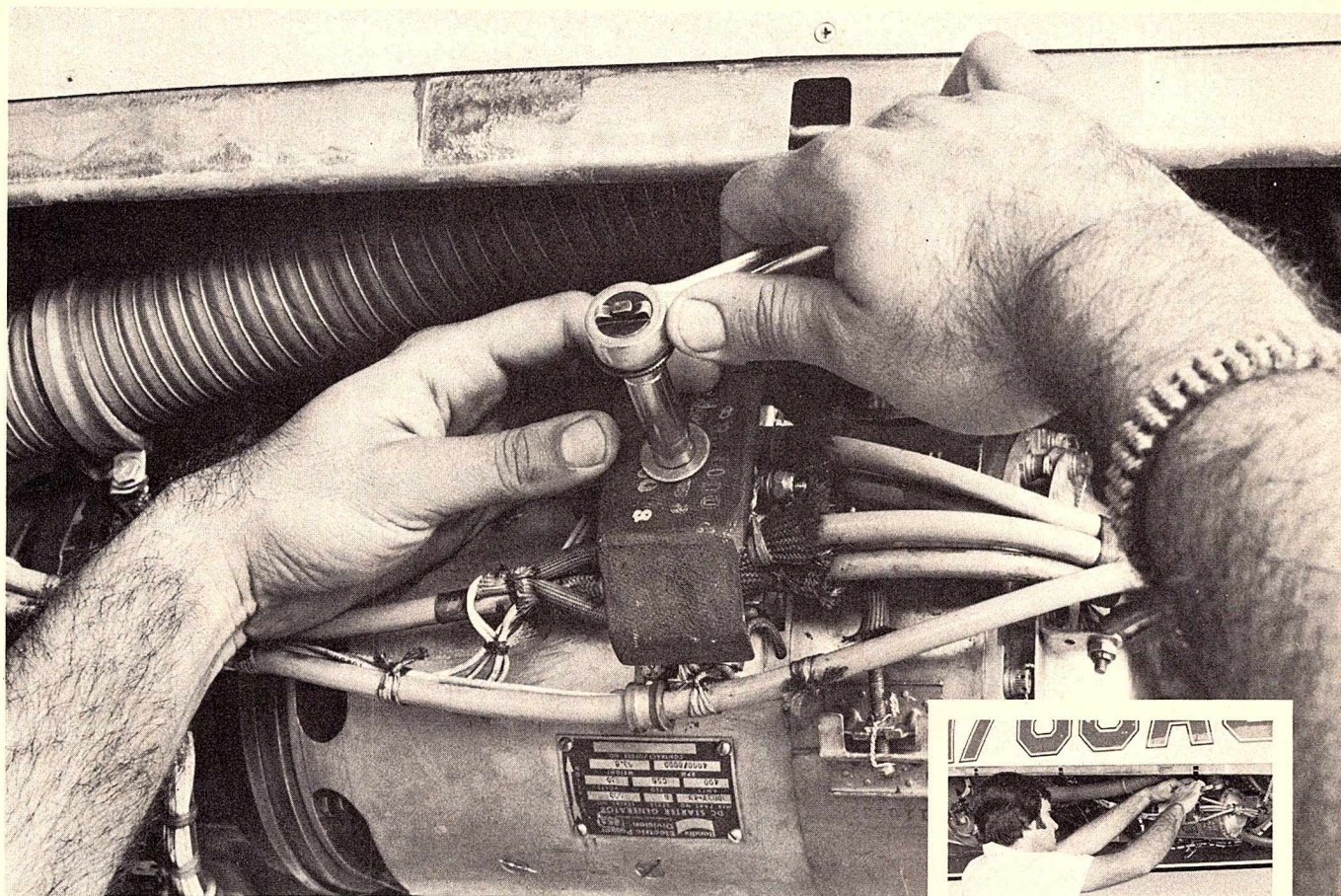
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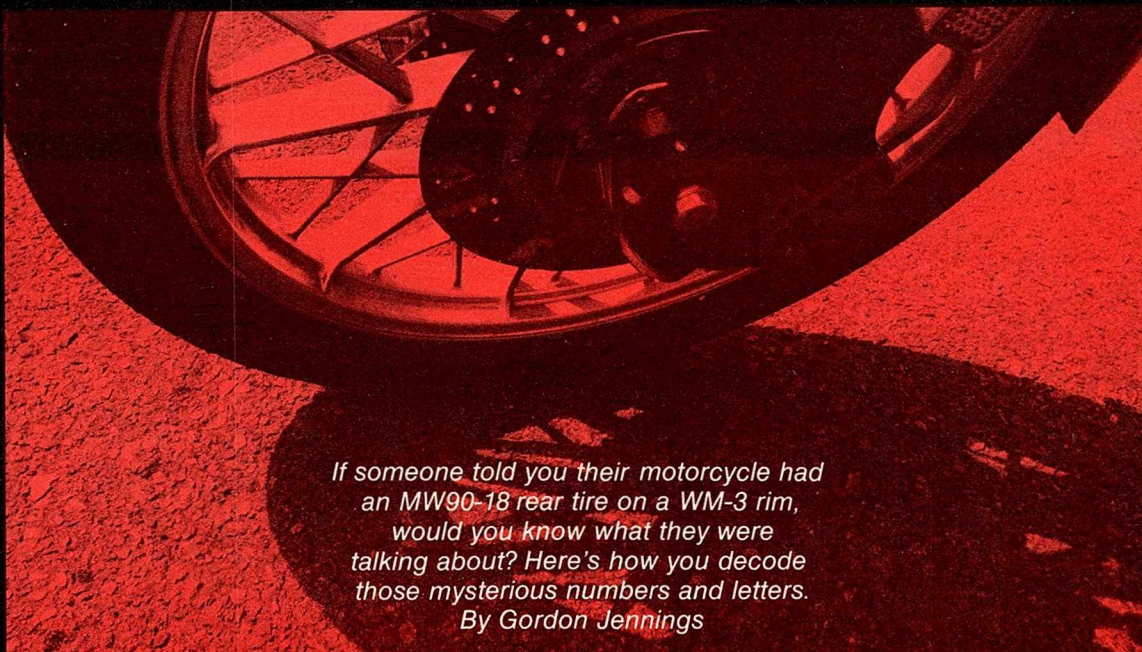
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TIRES AND RIMS



If someone told you their motorcycle had an MW90-18 rear tire on a WM-3 rim, would you know what they were talking about? Here's how you decode those mysterious numbers and letters.
By Gordon Jennings

● CONVENTIONAL WISDOM, a most ancient and prolific source of error, says that bigger equals better and in this respect the average motorcyclist is conventional to a fault. We've seen belief in the universal efficacy of bigness expressed in many ways—the grotesquely oversize carburetor being an example that leaps to mind—but we think its effect may be most pernicious when riders experiment with rims and tires.

Sporting street riders will notice that today's road racing machines are wearing enormously fat tires, decide that's the hot tip for handling, and fit their bikes with the biggest skins they can find. Some of these riders, with a more extensive but still incomplete appreciation of tire and wheel technology, will know that the huge Dun-

lop and Goodyear racing slicks are mounted on ultra-wide rims and they'll order a set of the wheel makers' widest.

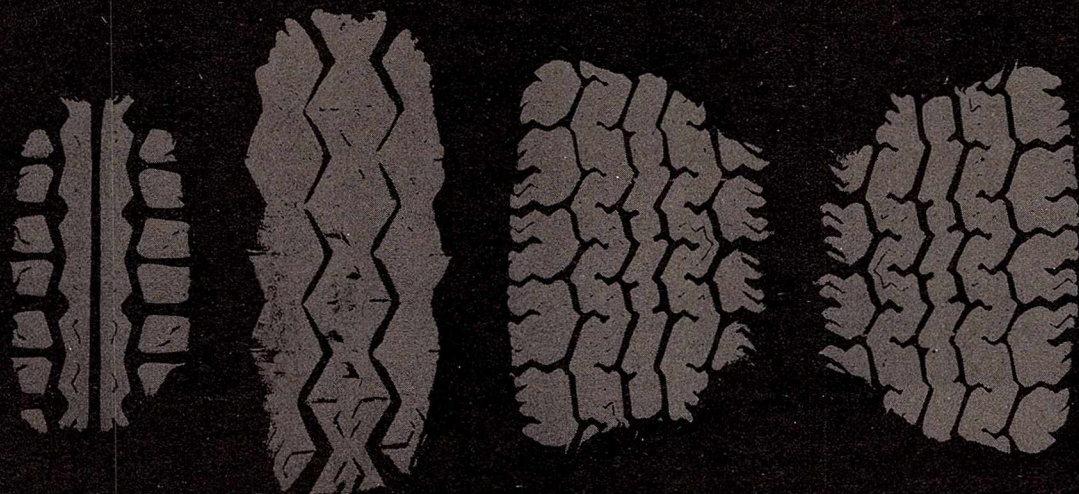
It is a fact that many motorcycles, especially those in the Superbike class, need bigger tires and wider rims than fitted by their manufacturers. Consider the example provided by Kawasaki's Z-1, which has a curb weight of around 540 pounds and enough power to hoist itself into orbit. Despite the very high weight and power factors, a Z-1's rear tire is only a 4.00-18, which must be inflated to a rock-hard 36 psi to cope with two-up loading and which feeds the big four's 75-plus horsepower to the pavement across a contact patch about half the size of your hand. You just don't ask a tread patch that small to transmit a lot of power when it's

carrying a big cornering load unless you love to land on your ear, and brisk riding will buff away tread so fast you'll think someone has been at it with a sander.

We've mentioned the Z-1 to make the point about Superbikes and excessive weight-tire loadings; Kawasaki's arm-stretcher certainly is not alone in being thinly-strung where the rubber meets the road, as many of you must have reason to know. But, having recognized the problem, where do you go from there? A bigger tire would seem to be the answer; it's an answer that can lead thoughtful riders into a thicket of questions, and the unwary into trouble.

Let's return to our hypothetical Kawasaki Z-1 and add an owner who's right up there with the best in terms of sporting

Superbikes transfer up to 80 bhp across the small tire contact area shown at the left. The Kawasaki KZ900 LTD's MT90-16 (5.66-16) rear tire—shown next—puts down a far larger footprint, but this still is only half of the two-tire total for a 70 bhp Volkswagen Rabbit.





There are no villains in the scenario

Under the old British standard there was nothing wider than a WM3 (2.15-inch) motorcycle wheel rim, and nothing fatter than 4.00-section tire envisioned for bikes. All that has changed in the last decade, and the British at least are ready to drop the whole WM-number system. Dunlop, for example, has proposed that

The diagram illustrates a road cross-section with the following labels and dimensions:

- A**: Horizontal distance from the left edge to the centerline.
- B**: Total vertical height from the base to the top of the road.
- E**: Vertical height from the base to the top of the road at the right edge.
- N**: Vertical height from the base to the top of the road at the centerline.
- H MAX.**: Maximum height of the road at the centerline.
- P-RAD.**: Radius of the curve on the left side.
- Q-RAD.**: Radius of the curve at the centerline.
- F-RAD.**: Radius of the curve on the right side.
- D-RAD.**: Radius of the curve at the right edge.
- RIM DIAMETER (10" THRU 21")**: Dimension for the rim diameter.
- NOMINAL DIA. + .060 - .006**: Dimension for the nominal diameter.
- EXCEPT: 10" .12" & 16" = NOMINAL DIA. - .030 + .013 - .006**: Exception for specific rim diameters.

RIM SECTION	A + .010	B ± .010	E	N		P RAD.	Q RAD.	F RAD.	D RAD.	H MAX.
				+ .020	− .000					
1.20	1.200	.354	.216	.335	.276	.305	.138	—	.059	
1.60	1.600	.470	.180	.300	.210	.550	.320	.125	.080	
1.85	1.850	.544	.136	.348	.240	.642	.500	.135	.080	
2.15	2.156	.544	.136	.348	.288	.754	.500	.135	.080	

2.50 CM

.41 MIN.

.30 R

.125R MAX.

.23R+.06

.25R

.187R

.47R

.45

.625+.047

.688 MIN.

5° ± 1°

.936

.468

.006 ± .010

±.03

.50

NOMINAL DIA.

18" -17.995

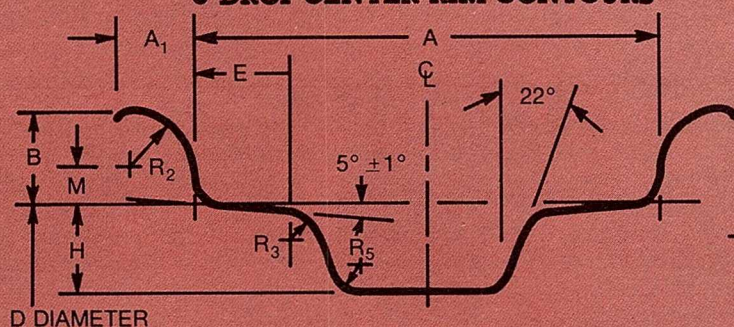
19" -18.995

-.032 ± .015

H DIA. MAX.

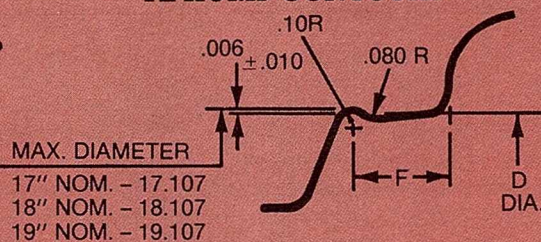
*Designation not used by all rim makers
**Nearest Dunlop equivalent is 2.625-inches

TL RIM CONTOURS 5° DROP CENTER RIM CONTOURS



NOM. RIM DIA.	17"	18"	19"
"D" Dia. +.010"	17.080	18.080	19.080
-.010"			

TL HUMPS CONTOURS



RIM SIZE	A ±.010	B ±.010	E +.080 -.0	F +.080 -.0	H MIN.	M REF.	R ² **	R ³ MIN.	R ⁵ MAX.	A ¹ MIN.	A ¹ MAX.
1.85TL	1.850	.544	.310	—	.400	.138	.500	.250	.125	.30	.40
2.15TL	2.156	.544	.410	—	.400	.138	.500	.250	.125	.30	.40
*2.50TL	2.500	.570	—	.520	.550	.157	.500	.250	.125	.40	.55
*2.75TL	2.750	.570	—	.560	.550	.157	.500	.250	.125	.40	.55
*3.00TL	3.000	.630	—	.640	.650	.197	.500	.250	.125	.45	.60

*Rims 2.50TL and larger have humps as shown.

everyone just use a plain inch-size designation, and Dunlop's tire/rim suitability charts give rim widths in inches for everything wider than a WM3. But Dunlop's suggestion is being ignored by Daido, in Japan: the D.I.D. specifications sheet shows WM4 (2.5-inch), WM5 (3.0-inch), and WM6 (3.5-inch) rims for motorcycles. We think it's very nice that Daido should want to continue a fine old tradition; we do think if they're going to do that they should leave tradition intact. For as it happens, the next rim width up from a WM3 the English recognize is not the

D.I.D. WM4, at 2.5 inches between flanges, but one measuring 2.625 inches.

Maybe it's best that we, as individuals, follow Dunlop's proposal to the industry and begin to think about rim widths strictly in terms of dimensions. That will clear up some of the confusion though we will have other mysteries to keep us from becoming bored. There still is the difference between nominal and true rim widths to be considered, and the small matter of knowing where to measure between a rim's flanges. Finally, (and we need only remind you on this point) an

otherwise suitable rim can be wrong just because your bike's hub is drilled to carry 36 spokes and the rim is dimpled and drilled for 40 spokes—or *vice versa*. You have to specify the number of spoke holes you want in a rim.

A glance at the dimensioned rim cross-sectional configurations presented with this text will tell you there's more to a wheel's shape than immediately meets the eye—and the glance should show you where the rim width measurement is to be taken. Get your calipers (or sight-line, if you're using a ruler) right down near the base of each flange, just above the radiused corner where the bead-seating ledge and flange come together. Don't worry about small discrepancies between the nominal rim widths listed here and the actual dimensions you will find: a rolled and/or extruded rim can't be held to close tolerances (and doesn't need to be) and other variations seem to creep in just because some wheel makers round-off inch dimensions to the nearest millimeter.

We'll mention here, in case you didn't know, that although wheel diameters are always given in even inches, their true measurements do vary somewhat from the nominal. The actual bead-seating diameter of cylindrical-bead rims will be .060-inch greater than the nominal (an 18-inch rim's diameter would be 18.060-inch). But the 2.50 CM rim is slightly undersize where the tire's bead seats, and has a bead-retaining hump between each of its flanges and the rim's drop center. And a TL-series rim will have CM-type retaining humps in 2.50-, 2.75- and 3.00-inch widths; in the 1.85- and 2.15-inch widths a TL rim will have smooth, 5-degree tapered bead-seating ledges. The narrower TL rims are .080-inch oversize

GENERAL TIRE INFORMATION

Tire Size	Rim Design Width	New Tire Design Section Width	Overall Diameter	Approved Rim Contours	Tire Size	Rim Design Width	New Tire Design Section Width	Overall Diameter	Approved Rim Contours
2.25-17	1.20	2.25	21.90	1.20	ME90-17	1.20	2.25	21.42	1.20
2.50-16	1.60	2.58	21.40	1.60	MF90-16	1.60	2.58	20.86	1.60
2.50-17	1.60	2.58	22.40	1.60	MF90-17	1.60	2.58	21.86	1.60
2.50-18	1.60	2.58	23.40	1.60	MF90-18	1.60	2.58	22.86	1.60
2.75-17	1.60	2.85	23.14	1.60	MG90-17	1.60	2.85	22.52	1.60
2.75-18	1.60	2.85	24.14	1.60	MG90-18	1.60	2.85	23.52	1.60
3.00-16	1.85	3.15	22.70	1.85, 1.85TL	MH90-16	1.85	3.15	22.02	1.85, 1.85TL
3.00-17	1.85	3.15	23.70	1.85, 1.85TL	MH90-17	1.85	3.15	23.02	1.85, 1.85TL
3.00-18	1.85	3.15	24.70	1.85, 1.85TL	MH90-18	1.85	3.15	24.02	1.85, 1.85TL
3.00-19	1.85	3.15	25.70	1.85, 1.85TL	MH90-19	1.85	3.15	25.02	1.85, 1.85TL
3.00-21	1.85	3.15	27.70	1.85, 1.85TL	MJ90-16	2.15	3.50	22.60	2.15, 2.15TL
3.25-16	2.15	3.50	23.34	2.15, 2.15TL	MJ90-17	2.15	3.50	23.60	2.15, 2.15TL
3.25-17	2.15	3.50	24.34	2.15, 2.15TL	MJ90-18	2.15	3.50	24.60	2.15, 2.15TL
3.25-18	2.15	3.50	25.34	2.15, 2.15TL	MJ90-19	2.15	3.50	25.60	2.15, 2.15TL
3.25-19	2.15	3.50	26.34	2.15, 2.15TL	ML90-16	2.15	3.65	22.96	2.15, 2.15TL
3.50-14	2.15	3.65	21.74	2.15, 2.15TL	ML90-17	2.15	3.65	23.96	2.15, 2.15TL
3.50-16	2.15	3.65	23.74	2.15, 2.15TL	ML90-18	2.15	3.65	24.96	2.15, 2.15TL
3.50-17	2.15	3.65	24.74	2.15, 2.15TL	ML90-19	2.15	3.65	25.96	2.15, 2.15TL
3.50-18	2.15	3.65	25.74	2.15, 2.15TL	MM90-19T	2.50	3.75	25.88	2.50CM
3.50-19	2.15	3.65	26.74	2.15, 2.15TL	MN90-18	2.15	4.10	26.08	2.15, 2.15TL
3.50-21	2.15	3.65	28.74	2.15, 2.15TL	MN90-19	2.15	4.10	27.08	2.15, 2.15TL
3.75-19T	2.50	3.80	26.74	2.50CM	MP90-18T	2.50	4.25	26.44	2.50CM
4.00-18	2.15	4.10	27.08	2.15, 2.15TL	MR90-18	2.15	4.50	27.04	2.15, 2.75TL
4.00-19	2.15	4.10	28.08	2.15, 2.15TL	MT90-16T	3.00	5.10	25.58	3.00D
4.25-18T	2.50	4.25	27.08	2.50CM					
4.50-18	2.15	4.50	28.12	2.15, 2.75TL					
5.00-16T	3.00	5.10	26.60	3.00D					

TIRES AND RIMS

compared with their nominal diameters; the wider ones ask a tire to stretch .107-inch to get past their flange/drop center humps, and hold it with a .095-inch interference fit after it's in place.

You shouldn't fret yourself over the intricacies of rim configurations; the important thing to know is how to match tires and rims, which is a necessity if the tire is to do its job properly. Tires are designed to work when their beads are held apart some specific distance, and misbehave when the between-beads distance is wrong. The beads, held firmly against a rim's flanges by air pressure, are a tire's foundations. When a tire is mounted on a too-narrow rim its lateral stability is poor—and this condition will be reflected in the handling of any motorcycle in which such mismatching exists. Stability usually doesn't suffer when rim width is too great for a particular tire, but it will do terrible things to ride-comfort and the tire's cornering capabilities. With the rim too wide, the tire's sidewalls are too stiffly braced and the tread is unnaturally flattened, and while the first tends to make the tire chatter over bumps rather than enveloping them—which is bad enough—the second will have you trying to corner on the tire's treadless sidewall.

You'll be pleased to know that there is an international standard for combinations of tires and rims, and we've reproduced the Tire and Rim Association's charts here for your edification. There is one small problem in this otherwise uncomplicated "search and match" situation: experience tells us that the Association's advice just isn't the last word on tire/rim combinations for motorcycles. For instance, the charts say that a 4.00-18 tire needs a 2.15-inch rim, and—in

a flare of inconsistency—then tells us a 4.50-18 tire will work with a 2.15- or 2.75-inch rim. Our experience is that a 4.25-section tire works very well on a 2.15-inch (WM3) rim, but that the slightly larger 4.50-section tire on the same rim is inadequately supported and will make a bike's cornering behavior just a little vague. We haven't much experience with the smaller range of tire/rim combinations; we'd guess that a good rule of thumb for anyone interested in really sharp handling would be to stick with the wider of the rims the Association approves for tires of any given size. That is to say, a 4.25-section tire really should be fitted on a 2.50-inch rim, and you should go to a 2.75-inch rim if you want to use a 4.50-section tire. We don't doubt that the Association's tire/rim combinations are safe; where the charts leave you with a choice, the wider approved rim usually will give your bike crisper handling.

Tire sizes were, in the past, given in straightforward inch-based numbers; that no longer is necessarily the case. The old inch-size designations were adequate back when a motorcycle tire's cross-section was substantially round, but the low-profile tire is here and a new system of labeling is needed. The system exists—in the Tire and Rim Association yearbook. At present only Goodyear has adopted the new tire size designations—to the complete mystification of nearly everyone. If someone handed you a Goodyear tire with the designation MT90-16T embossed on its sidewall, would you know what it was (beyond the fact that it was a tire)? Probably not. We'll translate: *M* means motorcycle; the *T* is a code letter for the tire's section size, in this instance 5.10-inch; 90 designates a 90-series tire, which

means the tire's height from bead to crown should be 90-percent of its width (but isn't, in all cases); the second number (16) is the tire's rim diameter; and the final letter, another *T*, tells you it has a tapered bead. We've provided a chart for 90-series tires, with the new letter designations for section width, etc., and with it you can easily tell that an MT90-18T is a 4.25-18 motorcycle tire with a tapered bead. You'll also know it's a Goodyear tire; the Europeans and Japanese are sticking with numbers for the most part.

You can have yourself quite an entertaining time just trying to deal with the number designations on tire. Most tire makers have settled on numbers that indicate tire section width, in millimeters or inches, but then they'll toss in a second number to tell you about profile. For example, a Dunlop 4.25/85 tire has a 4.25 section width, and the section is 85-percent as high as it is wide. Continental, among others, sometimes uses the same kind of designation. But the size/percentage system is not used by everyone, and not always even by a single manufacturer. Some tire makers are still in transition, using designations like "3.75/4.25-18" in which the first number is section height and the second the tire's width. Dunlop's low-profile racing tires carry this kind of marking, as in the 3.50/5.75-18 road racing slick (which, though nearly six inches across, is supposed to be fit on a 2.625-inch rim).

There's another tire marking that seems to generate some confusion, and that's the letter stuffed in between the section designation and the rim diameter. You'll see tires marked "4.25/85H-18" or "3.50S-18." The "H" designation means

(Continued on page 86)

TIRE LOAD LIMITS—COLD INFLATION PRESSURES

SIZE	12	14	16	18	20	22	24	26	28	30	32	SIZE	12	14	16	18	20	22	24	26	28	30	32
2.25-17	140	150	170	180	190	200	210	220	230	240	250	ME90-17	130	140	160	170	180	190	200	210	220	230	240
2.50-16	150	170	180	200	210	220	230	240	250	270	280	MF90-16	140	160	170	180	200	210	220	230	240	250	260
2.50-17	160	180	190	210	220	230	250	260	270	280	290	MF90-17	150	170	180	190	210	220	230	240	250	260	270
2.50-18	170	190	200	220	230	250	260	270	280	290	310	MF90-18	160	180	190	200	220	230	240	250	270	280	290
2.75-17	200	220	240	250	270	280	300	310	330	340	360	MG90-17	190	200	220	240	250	270	280	300	310	320	330
2.75-18	210	230	250	270	280	300	310	330	350	360	370	MG90-18	200	210	230	250	270	280	300	310	320	340	350
3.00-16	220	240	260	280	290	310	330	340	360	370	390	MH90-16	200	220	240	260	270	290	310	320	340	350	360
3.00-17	230	250	270	290	310	330	340	360	380	390	410	MH90-17	210	230	250	270	290	310	320	340	350	370	380
3.00-18	240	260	280	300	320	340	360	380	400	410	430	MH90-18	230	250	270	290	310	330	340	360	380	390	410
3.00-19	250	270	300	320	340	360	380	400	410	430	450	MH90-19	240	260	280	300	320	340	360	380	390	410	430
3.00-21	280	300	330	350	380	400	420	440	460	480	490	MJ90-16	230	260	280	300	320	340	350	370	390	400	420
3.25-16	230	250	270	290	310	320	340	360	370	390	400	MJ90-17	250	270	290	310	330	350	370	390	410	430	440
3.25-17	240	260	280	300	320	340	360	380	390	410	430	MJ90-18	260	280	310	330	350	370	390	410	430	450	460
3.25-18	250	270	300	320	340	360	380	390	410	430	450	MJ90-19	270	300	320	350	370	390	410	430	450	470	490
3.25-19	260	290	310	330	350	370	390	410	430	450	470	ML90-16	260	280	300	330	350	370	390	410	420	440	460
3.50-14	230	250	270	290	300	320	340	350	370	390	400	ML90-17	270	300	320	340	360	390	410	430	450	460	480
3.50-16	250	270	290	310	330	350	370	390	410	420	440	ML90-18	280	310	340	360	380	410	430	450	470	490	510
3.50-17	260	280	310	330	350	370	390	410	430	450	460	ML90-19	300	320	350	380	400	420	450	470	490	510	530
3.50-18	270	300	320	350	370	390	410	430	450	470	490	MM90-19T	290	320	340	370	390	420	440	460	480	500	520
3.50-19	280	310	340	360	390	410	430	450	470	490	510	MN90-18	360	390	410	450	480	510	540	560	590	610	640
3.50-21	320	340	370	400	420	450	470	500	520	540	560	MN90-19	370	410	440	470	500	530	560	590	620	640	670
3.75-19T	290	310	340	360	390	410	430	450	470	490	510	MP90-18T	390	420	460	490	520	550	580	610	640	660	690
4.00-18	340	380	410	440	470	490	520	540	570	590	610	MR90-18	430	470	510	540	580	610	650	680	710	740	760
4.00-19	360	390	430	460	490	510	540	570	590	620	640	MT90-16T	430	470	510	550	590	620	650	680	710	740	770
4.25-18T	350	380	410	440	470	500	520	550	570	600	620												
4.50-18	410	450	490	520	560	590	620	650	680	710	740												
5.00-16T	430	470	500	540	580	610	640	670	700	730	760												

Italian denotes maximum recommended loads. For high speed operation in excess of 75 mph, increase inflation pressure 8 psi with no increase in load.

Italic denotes maximum recommended loads. For high speed operation in excess of 75 mph, increase inflation pressure 8 psi with no increase in load.

TIRE SOURCES

AVON
Hap Jones Distributing Co.
P. O. Box 3068
San Francisco, California 94119

BARUM
American Jawa Ltd.
185 Express Street
Plainview, New York 11803

BRIDGESTONE
Bridgestone Tire Co.
P. O. Box 2964

Torrance, California 90504

CARLISLE
Carlisle Tire and Rubber Co.
P.O. Box 99
Carlisle, Pennsylvania 17013

CHENG SHIN
Cycle Battery Supply
8104 Freestone Avenue
Santa Fe Springs, California 90670

CONTINENTAL
Conti Rubber Products, Inc.
Carteret, New Jersey 07008

DUNLOP
Dunlop Tire and Rubber
Buffalo, New York 14240

FULL BORE*
Yankee Motor Co.
P. O. Box 36
Schenectady, New York 12301

GOODYEAR
Goodyear Tire and Rubber
1144 E. Market Street
Akron, Ohio 44316

HI-POINT*
Hi-Point Accessories
3709 W. Erie Avenue
Lorain, Ohio 44053

IRC
Inoue Rubber International Co., Ltd.
301 Mill Road, Box 396
Hewlett, New York 11557

METZELER
Berliner Motor Corp.
Railroad Street and Plant Road
Hasbrouck Heights, New Jersey 07604

MICHELIN
Michelin Tire Corp.
2500 Marcus Avenue
Lake Success, New York 11040

NANKANG
Nankang Rubber Tire Corp.
22117 S. Vermont
Torrance, California 90502

NITTO
Nisho-Iwai American Corp.
17317 S. Figueroa Street
Gardena, California 90247

PIRELLI
Pirelli Tire Corp.
600 Third Avenue
New York, New York 10016

TRELLEBORG*
Torsten Hallman Racing, Inc.
1490 Fayette Street
El Cajon, California 92020
YOKOHAMA
Yokohama Rubber Co., Ltd.
1530 Church Road
Montebello, California 90640
*Off-road tires only

RIM SOURCES

AKRONT
Akront North American
Box 2307
Anaheim, California 92804

BORRANI
Cosmopolitan Motors
Jacksonville and Meadowbrook Roads
Hatboro, Pennsylvania 19040

D.I.D.
Daido Corporation
885 Centennial Avenue
Piscataway, New Jersey 08854

DUNLOP
Dunlop Tire and Rubber
Buffalo, New York 14240

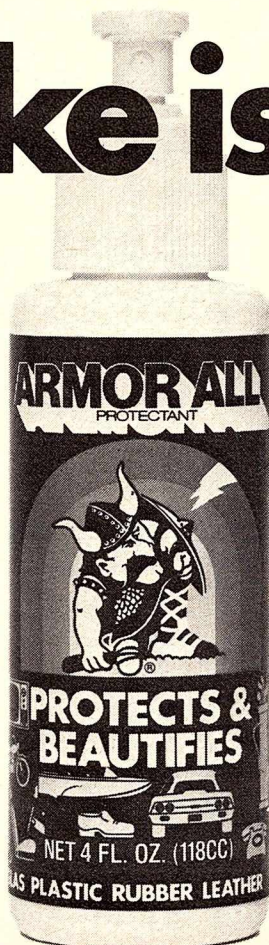
SUN
Sun Metal Products, Inc.
P. O. Box 778
Warsaw, Indiana 46580

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CY2

How Quick Can It Really Go?

Pencil Burnouts on the Theoretical Dragstrip
by Ray Battersby

● How often do you hear the self-styled motorcycles whiz-kids say that the weight of a motorcycle, or its gearing, has a marked effect on its acceleration? It does make sense—a 350 lb athlete would be up against it in a 100 metre dash against an opponent weighing in at a trifling 140 lb, and a heavy truck with the same BHP as a lithe Turbo Porsche isn't likely to win the drag stakes. It MUST be true . . . mustn't it? You'd think so.

Well, it may surprise you buffs that the current crop of motorcycle hardware pushed out by the Japanese and European manufacturers doesn't uphold this theory; it may well be that when motorcycles are optimized, rationalized and computerised by the engineers, the weight and gearing factors cancel each other out for each specific design. Whatever the explanation, I have found that ¼ mile et and terminal speeds are not dependant on either, but simply on the BHP delivered by the rear wheel.

Stunning.

This project was the obvious sequel to "How Fast Can It Really Go?" (Cycle July '76), work having commenced on it even before finalizing the previous effort. Now don't get me wrong, I'm no egg-head, just an ordinary engineer possessing a logical brain, and yer logical, common-garden engineer latches onto gearing and weight as soon as acceleration is mentioned. Guess what, so did this engineer. I had many a late night pondering these factors and almost wore out my calculator in the process, and all in a fruitless effort to tie these factors up in a nice neat equation. I failed completely.

Being a great believer in empirical relationships (NOT a sexual deviation) and throwing caution to the wind, I forgot all I'd learned about $P = \frac{w \cdot f}{g}$ and other Newtonian Laws of motion and evolved myself a set of neat, simple formulae. But before I go on, let me enlighten you about empirical relationships. In the days before Newton conducted his experiments, before Watts did his thing with the kettle, and before I.K. Brunel was old enough to be building bridges with toy bricks, the engineers of the day found that if certain motions took place, they resulted in other things happening; for instance, they knew that if they hurled a half-brick forward horizontally, it would eventually hit the ground; but *where* would it hit the

ground? To enable them to predict this behavior, and to calculate the forces required to knock piles into the Thames, they evolved a temporary, makeshift mathematical relationship which sufficed until the latter-day great engineers were spewed out by the universities, who, armed with the new logarithmic tables and slide rules, and later with computers, were able to tie up the loose ends and transpose their forefather's Empirical Formulae into an ultra-precise, mathematically correct equation.

Using methods similar to these venerable gents, I eventually arrived at the following Empirical formula which relates the et. in seconds to the rear-wheel BHP of any motorcycle in standard road-going trim. Here it is:

$$et = \frac{40}{P^{1/8}} - 6.6$$

where: et = time in seconds
to cover SS ¼ mile.

P = Rear-wheel BHP.

Simple, isn't it? This equation used on the machines listed in the accompanying table gives extremely accurate results, a maximum error of 6.81% and an average error of only 2.39%.

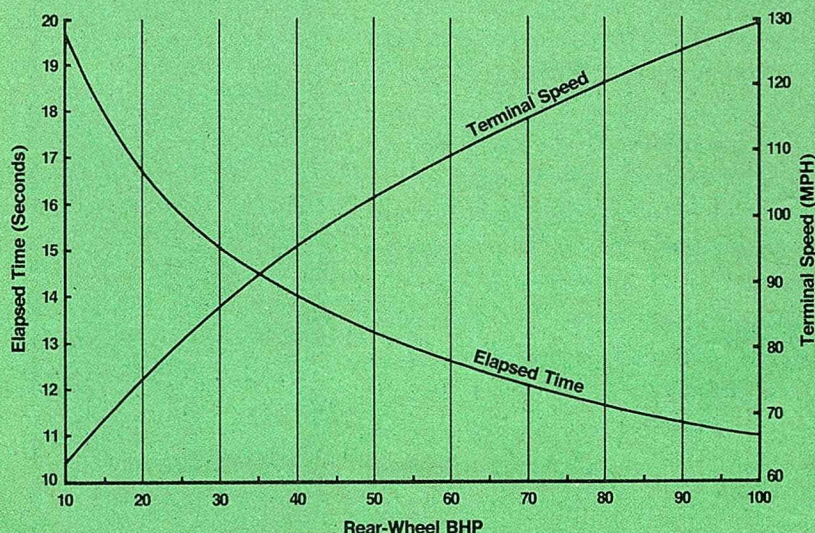
The equation relating BHP to ¼ mile terminal speeds is even simpler.

$$V = 28P^{1/3}$$

where: V = SS ¼ mile terminal speed, MPH.

P = Rear-wheel BHP.

Machine	BHP	et-test	et-calc.	mph-test	mph-calc.
Suzuki GT380M	30.95	15.14	14.965	87.37	87.911
Honda CB550F	38.38	14.47	14.145	93.36	94.448
Kawasaki KH400	32.02	14.50	14.833	88.14	88.913
Honda XL350 K2	22.46	16.345	16.246	76.33	79.000
Honda CB125 S3	10.64	20.52	19.534	60.32	61.585
Kawasaki KZ900	74.46	12.52	11.813	110.29	117.796
Suzuki GT500	36.27	14.28	14.358	91.37	92.680
Yamaha RD400C	35.48	14.15	14.441	94.36	92.007
Yamaha XT500C	27.60	15.02	15.414	84.11	84.618
Suzuki GT185	13.64	18.05	18.392	68.68	66.900



This latter equation used on the tabulated machines gives a maximum error of 5.65% and an average error of 2.22%.

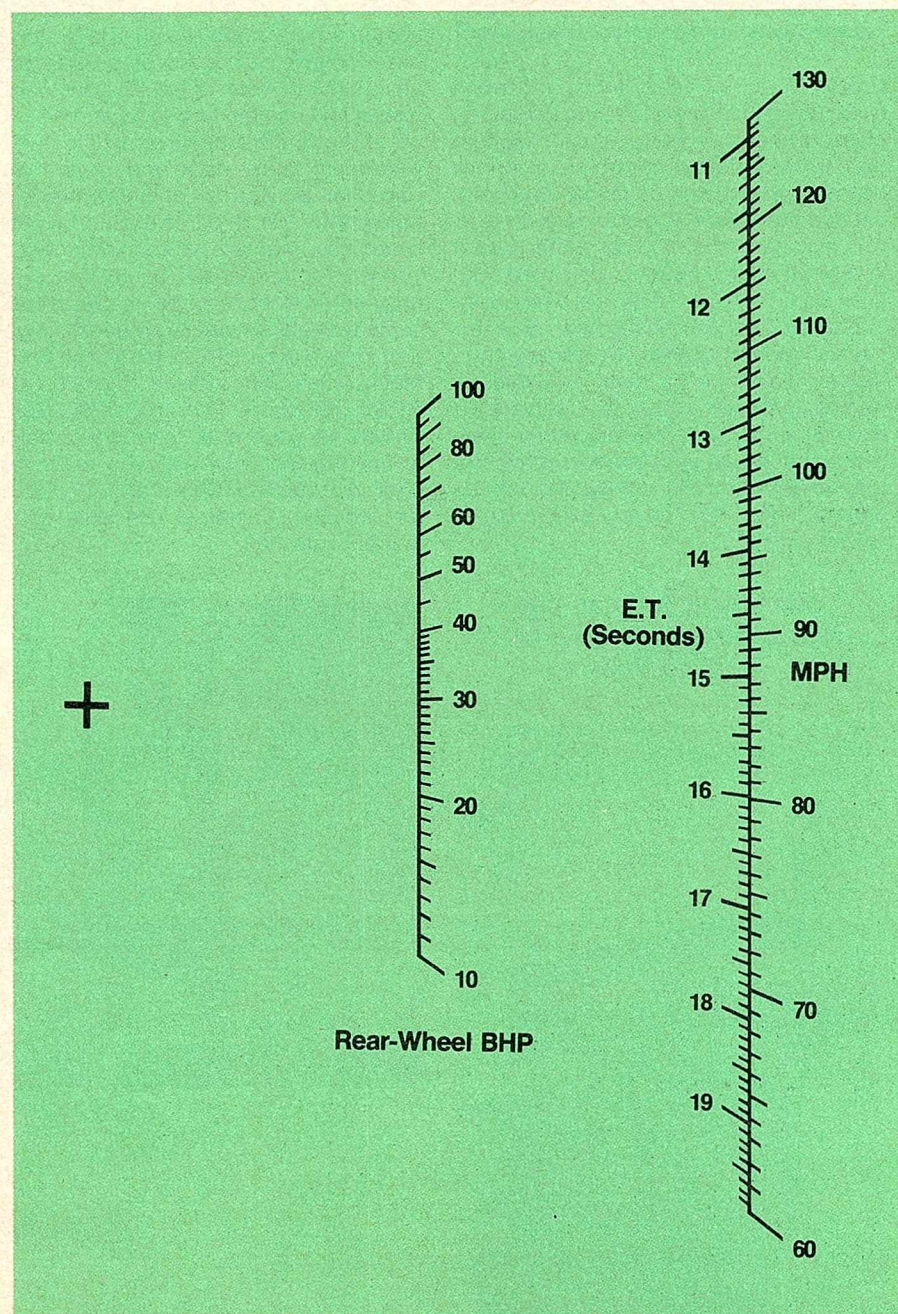
The accompanying table compares the tested and calculated results for all machines tested by *Cycle* between September 75 and May 76 inclusive, bearing in mind that not all *Cycle* tests include rear

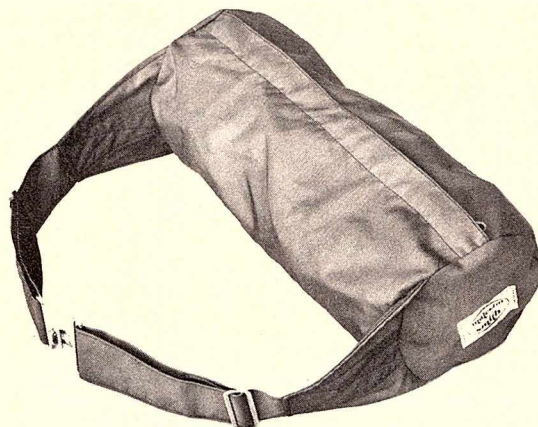
wheel BHP figures, usually due to the limitations of their dynamometer which can only accept chain-drive machines, and that rarely are SS ¼ mile results included for off-road or motocross hardware. If you peruse the table (left), you'll notice that the largest error occurs on the machine with the largest BHP, the Ka-

wasaki KZ900 LTD. This is not a freak result; I have calculated, compared and collated *Cycle* figures with my own calculated results back to October '74, and the one thing that sticks out like a sore thumb is that the bikes making the biggest BHP incur the biggest error. Don't allow me to put you off—of the 28 machines compared, only two machines had double-figure percentage errors. One was the Ossa 250 Phantom Motocrosser (*Cycle* Nov 74) where I suspect the off-road characteristics of the machine had a lot to do with the error, and the other was the "King", the Kawasaki Z1A 903 (*Cycle* Jan 75) with an awesome 82.88 BHP at the rear wheel. Whether the King makes 83 or 69 BHP at the rear wheel, it's still a brutal figure for mortal man. Even including the two above anomalies, the average error for the et figures is only 2.76% and that for the terminal MPH only 4.67%. As before, I don't expect the hard riders among you to have much time for mathematics, so I've made the use of these equations quite simple with the aid of a graph and a chart.

Incidentally, using the above equations, a road bike making 135BHP at the rear wheel should cover the SS ¼ mile in about 10 seconds at a terminal speed of about 144MPH. I must emphasize the use of the words "road bike" here because, as explained earlier, the formulae are "empirical" and are designed for use only with road machinery. I didn't include out-and-out dragsters in my terms of reference; their abnormally small frontal areas and super-sticky slicks would've induced a different set of conditions to those found on roadware. The formulae assume you've perfected your start-line technique to the standard of *Cycle*'s testers. If you compare your own SS ¼ mile performances with the calculated figures and find they fall short, practice your clutch starts or tune up your engine; if they exceed the theoretical figures, apply to *Cycle* for a job or congratulate yourself on your tuning ability to tell your friends.

If you want answers as accurate as those included in the table you'll have to poke them out of your calculator, or slog them out with your Napierian Logarithms if your battery's low. Either way, it'll be cheaper and much less wearing on yourself and the bike than a day spent down at the strip.





MALCOLM SMITH FANNY PACK

● MALCOLM DOESN'T KNOW IT but we've carried lunches, cameras, tire pumps, tools, Mother's Milk, green stickies, clean underpants and dirty magazines in his fanny pack. It dawned on us after three years of constant use that our readers would have a billion ideas for it too—if they knew it existed. Well, here it is, and it's really neat.

Malcolm originally designed it to carry his off-road racing jacket in case it got too hot to wear, as is often the case in Baja where the idea was conceived. The pouch is made from the same material as the jacket, super-duty 6½-ounce Nylon with heavy stitching and a water-repellent inside coating. Easily adjustable belt straps don't slip once set and are spaced to accommodate Malcolm's plastic canteen as well. An ultra-quick buckle which can't accidentally pop open enables you to slip the pack on and off in a flash.

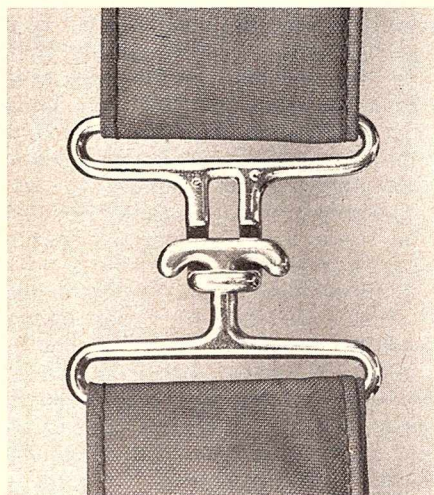
Product Evaluation

Unless it's full of heavy tools, you won't even notice it's there. A non-corroding plastic zipper is protected by a full-length flap from water and dirt. The zipper doesn't jam or catch on its basting material and the handle is big enough to grab with a gloved hand. You can either wear it in back where the pouch rests on the seat, or in front if you're carrying a passenger.

Street riders can easily pack an over-night's worth of clothes. We usually carry heavier gloves and a clear face shield if we anticipate that a daytime street ride will extend past sunset. You could strap these items on the seat with bungee cords, but they might get stolen when the bike is parked. Inside the pouch everything is always with you.

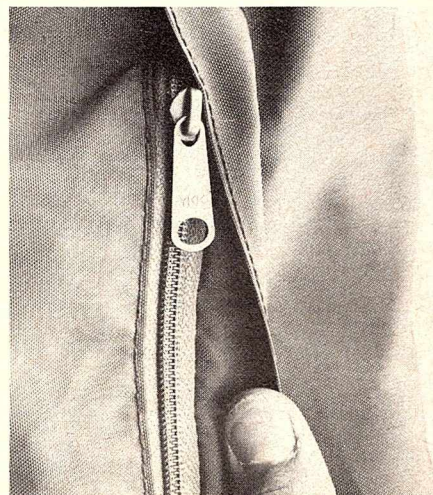
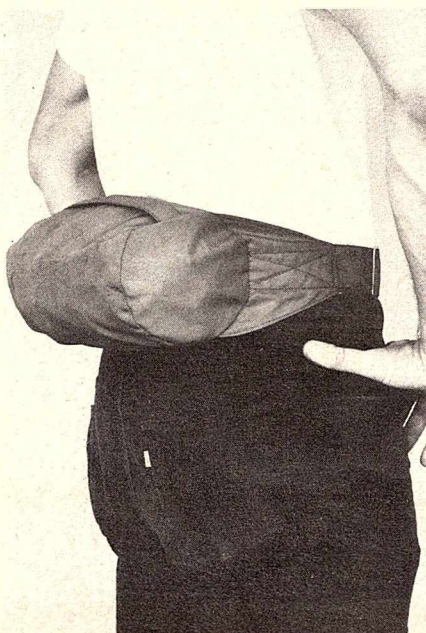
For dirt riding we line the pack with two or three shop rags to prevent tools from poking a hole in the Nylon. The pouch is big enough to carry spark plugs, tire irons, an innertube, a can of flat fix, your wallet, a selection of main jets, tools and a sandwich. We've crashed several times while wearing a fanny pack and never been poked or bruised by anything inside it, though storage of screwdrivers or other sharp instruments is not recommended. If you want to carry extra equipment, wear one pack in front and another one in back.

Many dealers stock fanny packs, or you can order direct from Malcolm Smith Motorcycles, 7563 Indiana, Riverside, CA. 92504. Telephone (714) 687-1300. Specify whether your waist is above or below 34 inches—and whether you want red, royal blue or navy. Cost is \$11.10 plus \$1 for shipping. California residents add 6 percent sales tax. ●

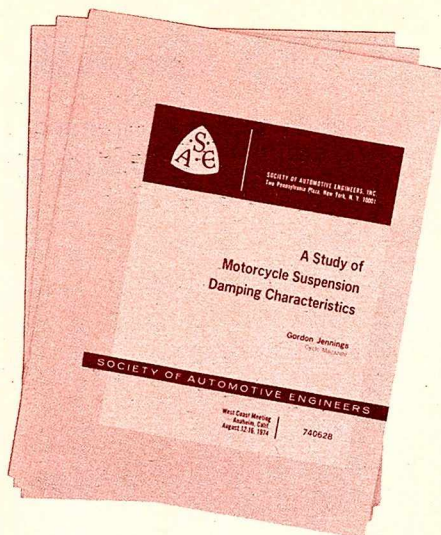


PHOTOGRAPHY: DALE BOLLER

Something you can use almost every time you ride.
By Dale Boller



The Techno-Maven Papers



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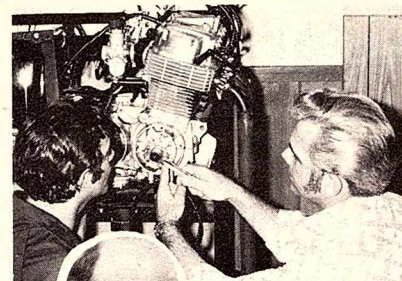
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Rister Boot and Leather Repair

A good way to save a lot of money
By Dale Boller

● "I CAN'T STAND WASTE," says Bill Rister of Rister Industries, a family firm specializing in motorcycle products and the repair of boots and leathers. "When I worked for Northrop on navigational instrumentation systems"—Rister has four college degrees—"I saw tens of thousands of dollars drained from the taxpayers through sheer waste." He remembers one incident which involved spending \$180,000 to fix a \$30,000 part. Frustrated, Rister returned to his father's shoe repair business four years ago to apply the family's skills to motorcycling. He and his parents and wife have since become experts in repairing motorcycle boots, leathers and protective gear such as shoulder pads, elbow guards, etc.

Rister does good work. He's invested \$4500 in heavy-duty machinery designed for sewing boots. Because he's ridden motorcycles since 1959 he knows what's needed. He has many years experience in the shoe repair business, and because he hates waste, he's fast. For most jobs his turnaround time is two working days.

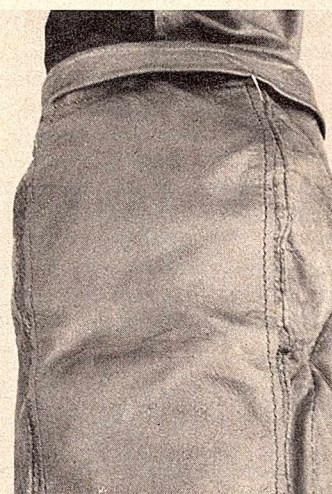
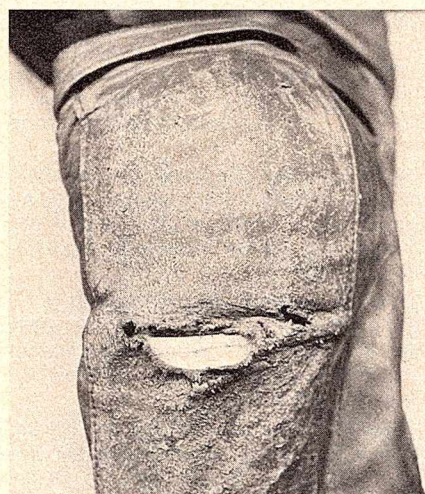
Rister Industries does all the warranty work on boots and leathers for Honda, Full Bore and Kawasaki. When these companies decide to replace an item for the customer, Rister buys the defective piece, repairs it and sells it as used equipment. His shop always has a dozen pair of used boots and 20-30 pairs of used leathers and gloves—all selling for much less than a shinier, but no better, new pair.

When a distributor spots "seconds" or defects among new merchandise, they are sent to Rister for repair. He once modified 1200 pairs of new boots for one major distributor to make them right. The Honda motocross team has its red, white and blue leathers custom fitted and decorated by Rister. "No group of women is more vain than those men," says Bill Rister's mom. "They tried on their pants so often that after a while they didn't even go in the other room to change." Rister's wife started the fad of putting a rider's name on the seat of his pants four years ago when she sewed HART on the back of Tim's leathers.

Cycle first learned about Rister Industries at a trade show where Bill was selling his metal Boot Savers to dealers. Since few shoe repairmen have the ability, equipment or desire to struggle with smelly motorcycle boots, we felt Rister's service was valuable—if he was good. Anonymously, we sent him a pair of Hi Point motocross boots, unuseable be-



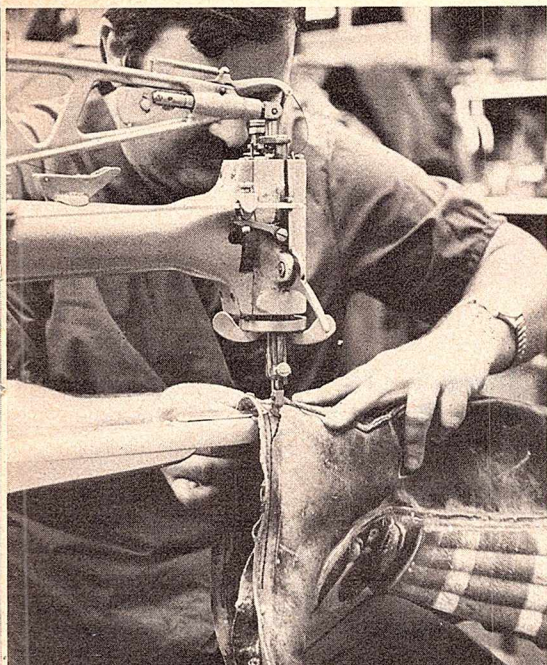
BEFORE AND AFTER—Bill Rister took this totally blown-out pair of Viking boots and gave them another year's life for \$42. New ones would have cost \$67. Even after shipping costs to Rister you're way ahead.



In a few more rides the knee cups would fall out of these \$80 Hi Point leathers. Rister's repairs: \$13.



These boots had plenty of wear left except for this separation which made them unusable. A \$3 fix.



PHOTOGRAPHY: DALE BOLLER



Leather in the finished boot has been rejuvenated by Rister's own Boot Oil blend. The toe is now protected by a Rister Boot Saver. Hole in upper circumference of boot (see far left photo) now has a patch.



The poor fellow wearing these leather-and-Nylon pants got run over, but his repair bill was only \$9.

cause of a gaping hole worn in the sole by a KTM footpeg. A few days later the boots came back with tough new Goodyear Chemigum soles and Boot Savers wrapped around the toes. The repairs cost \$27.00, compared to \$69.95 for new boots, and tedious break-in was avoided.

Rister's performance on the Hi Points definitely proved we should inform our readership about his services. During the day we spent preparing this story, Rister took on some incredible projects to demonstrate his skill—and made them all look easy. He used complex industrial sewing machines which employ \$22.00 needles

and thread the size of small rope. Special glue and trick nails supplement the sewing. One boot machine is about the size and shape of a pedestal grinder but has one moving part for every man, woman and child in America. It cost \$2800 and its stitches are tough as a weld.

We found out that Rister and his family can repair almost anything a street or dirt rider wears. There is one exception—Top Gear boots cannot be re-soled because the original sole is permanently bonded to the boot's steel toe. A list of services with approximate price ranges follows:

Boots—street or dirt:

Replace a buckle	\$2.50
Replace buckle strap	\$1.75
Re-cover toes	\$7.50–9.00
Shifter patch	\$5.75
New sponge and leather around top	\$11.50
New soles	\$21.50–40.00
Simple patches	\$1.75 and up
Difficult patches involving complete rebuild.....	Up to \$15.00

Leathers—jackets or pants, leather or nylon:

New zipper	\$6.00
Alterations	\$12.00–20.00
Patches: blown knee, rip, puncture hole	\$2.00–15.00
Names	\$2.25 per letter
Replace snaps	\$1.25 each
New linings	Contact Rister

Other services:

Alteration of men's motocross pants to make them fit women.

Addition of palm pads to gloves.

Repairs of Jim Davis and Jofa-type equipment.

Conversion of smooth-soled motocross boots to cleated enduro boots and vice versa.

Custom work of all kinds.

A particularly unusual service is supplying used motocross pants to youngsters. Simply send Rister a pair of jeans that fit your child and he will modify one of his used pants to match the sample—for \$20 to \$35 complete.

If you can't drive to his Gardena, California shop, send your equipment by United Parcel. In a week or less you will get them back UPS C.O.D. Rister will even make estimates on the phone.

If you want used equipment, send a list of sizes and requirements along with a self-addressed stamped post card that he can return with a description of what's available. There's often a waiting list, so be patient.

Bill Rister uses his education to develop motorcycle products as well. He helped design the die for his Boot Savers and he has formulated his own blend of Boot Oil and Leathers Conditioner. He also markets a chest protector specially designed to guard against collar bone and jugular vein injuries. For further information on these products, or for boot and other leather repairs contact Rister Industries, 1047 W. Gardena Blvd., Gardena, CA. 90247. Telephone (213) 538-5871. ●

Winning Every Mile

Picture the Champion Spark Plug Classic at Laguna Seca. Imagine a rider completely dominating the Expert 250 and 750 events. See Steve Baker fly.

By Phil Schilling

PHOTO: MUSH EMMONS



• **STEVE BAKER WAS AN ELECTRON GUN** in a slingshot contest. Under the Laguna Seca sky his TZ-250 wasted the lightweight field, and shortly thereafter Baker's OW-31 devastated the 750 opposition. Before it happened some could wonder. Yes, they had heard about Baker at Loudon; they'd read about his exploits in South America, England and Europe; and yes, they knew the Yamaha Motor Canada

bikes from Bob Work ran somewhere near the speed of light and kept running with the reliability of a belt buckle. Yes-yes-yes, surely it was all true, *but* there was Ken Roberts . . . and Gary Nixon . . . and. . . . The gun flashed, and those who came in doubt left in awe.

Explanations of the Baker success roll out like print-sheets from a frantic computer. The quick expla-readouts fall into several convenient categories: 1) *Superstar Rider*: Steve Baker's riding ability has surpassed those of all his competitors, and nothing succeeds like success for a rider. 2) *Trick Machinery*: Baker's mounts are technologically superior to their rivals, thanks to a mysterious sub-Pacific pipeline running from Yamaha's Japanese racing department to Bob Work's hip pocket. 3) *Superstar Tuner*: Bob Work, given the same parts as anyone else, will make his parts run faster. 4) *Organization*: Baker and Work have a tight-knit working organization, devoid of any race-day lawnchair bureaucracy; their operation is scaled perfectly to a road-racing-only effort. 5) *Focus*: A total road-race focus has narrowed the team's talents to a micron point. He who does it more does it better. 6) *The Struggling Opposition*: Baker's main American opponents, Roberts and Nixon, haven't won, or haven't been quite competitive enough, for reasons of their own. This unflattering notion holds that Baker has won because the others have lost—but overlooks that a win is a win, and *if onlys* are forever.

Such categorical explanations are really arbitrary. Poke around long enough inside one of the categories and soon you find yourself in another. After all, causes cannot be cut neatly out of an

event and separated one from another. But this much was clear at Laguna Seca: the sum total of all causes resulted in Baker's overwhelming superiority.

In the 250 event Baker warmed up his act. He summarily dispatched all comers in his heat, while Lightweight Expert David Emde passed and then held Ken Roberts in the other 250 heat. Baker, as well as Emde, had new Dunlop tires—which immediately became the hot tip for rubber.

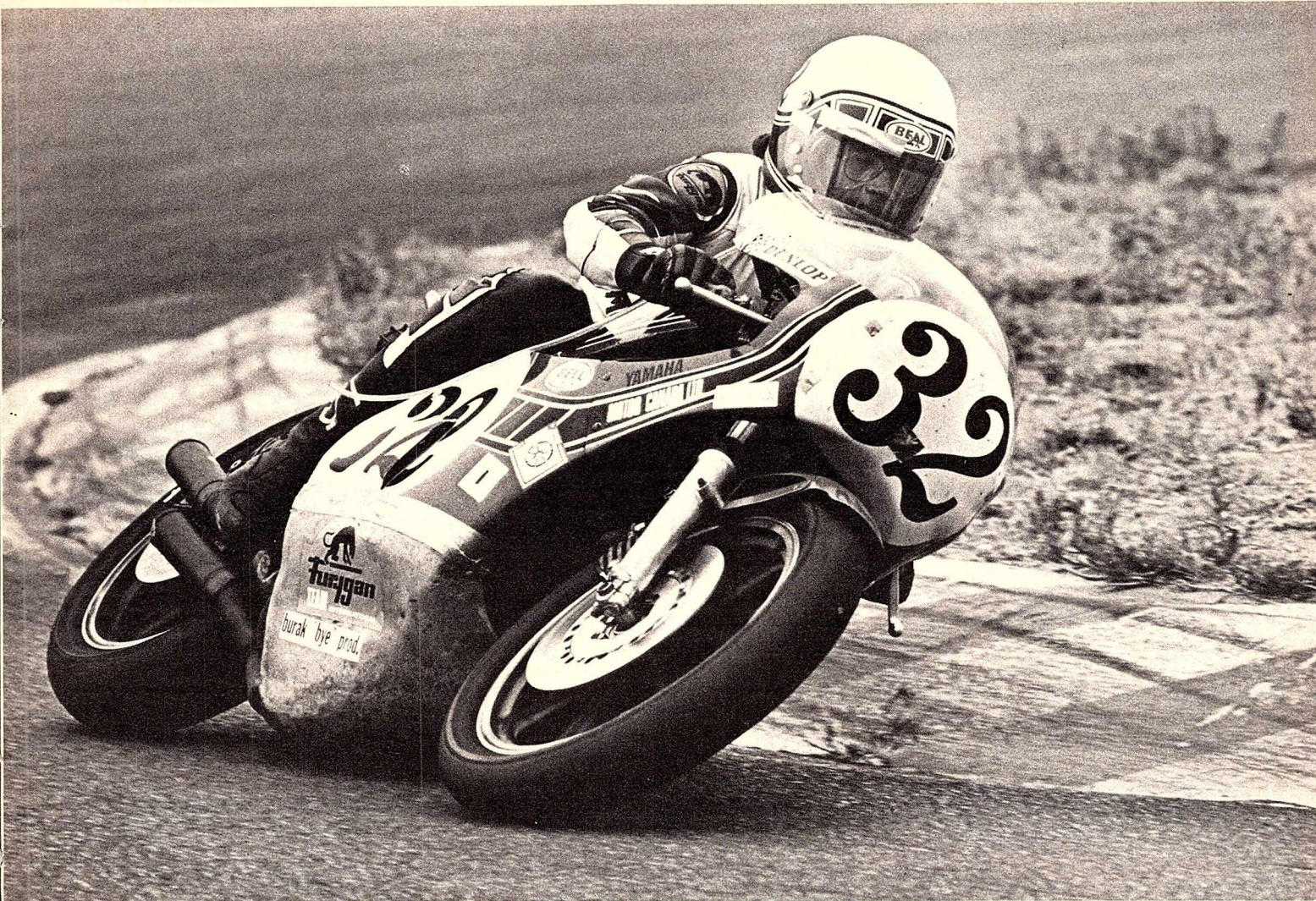
Roberts, who has a long and close working relationship with Goodyear, decided to get on Dunlop rim-skins for the 20-lap main event. By most everyone's reckoning Baker had a stronger 250, and Laguna is no place to concede both tires and horsepower. Since Roberts couldn't very well get any extra horsepower at Bob Work's Go-Fast Emporium, he did the next best, and only, thing he could do: change to Dunlops. Those tires were in high demand, but KR found a pair. Cheery Steve Baker gave Roberts his spare set of 250 tires.

The Monterey track itself presents some problems to riders, and therefore to tire merchants. There aren't a great number of races held at Laguna, so the track collects a fine layer of dust and dirt, most of which blows off on race weekends. When the sun and traffic warm the pavement, residual oil and grease come up and the track gets slippery. Furthermore, at Monterey racers are always turning, or about to turn, and they're going very fast in sweeping corners that have bumps in the proper lines, and sometimes in all lines. A slick, bumpy, fast track can make anyone picky about his tires.

In the Laguna tire war Dunlop certainly had its momentum back, quite a turnaround from Daytona where they almost pulled up to a standstill. The new 250 Dunlop tires are post-Daytona developments; the rear slick, the KR108 T13, is, as the British say, "a tuned version of the front tire for the big Yamahas," and the new slick front—the KR106—is lighter and softer than its predecessors. Dunlop employs Steve Baker as a tire development rider (yes, it can be a risky business), and he raced on the new 250 combination earlier in the year at Mosport (Ontario, Canada) and Loudon. So Baker probably knew more about Dunlop tires than anyone at Laguna Seca.

Some riders who got off Goodyears and on Dunlops said the British 250 tires felt more predictable; and they found it was easier to get the brakes on harder in a cornering attitude. Goodyear, striving to supply racing tires despite The Great American Rubber Strike, wanted to bring slightly different and updated tires (especially 750 slicks) to Laguna, but no plans apparently existed to meet Dunlop head-to-head at Laguna with new 250 rubber.

In view of Goodyear's supply problem, racers were lucky that a



(Above) The tube, trailing off the right edge of Baker's fairing, belongs to his in-flight Gatorade refreshment system. Ken Roberts (below, left) whips past, and across, Bob Nichols going into Turn Nine. National Champion Gary Scott—in case anyone forgot—rides the pavement very well indeed.

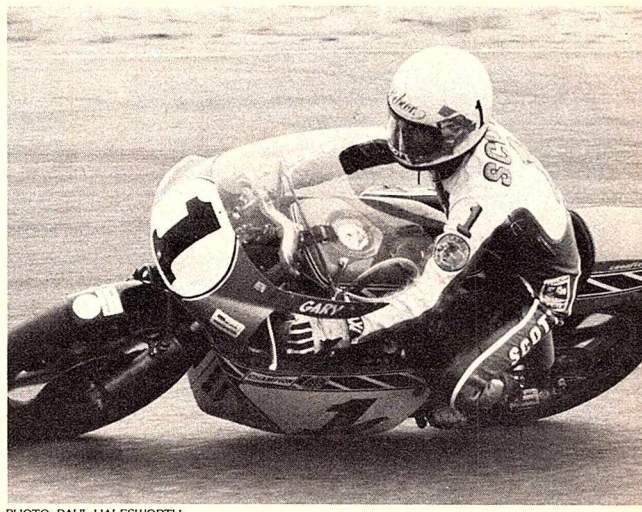
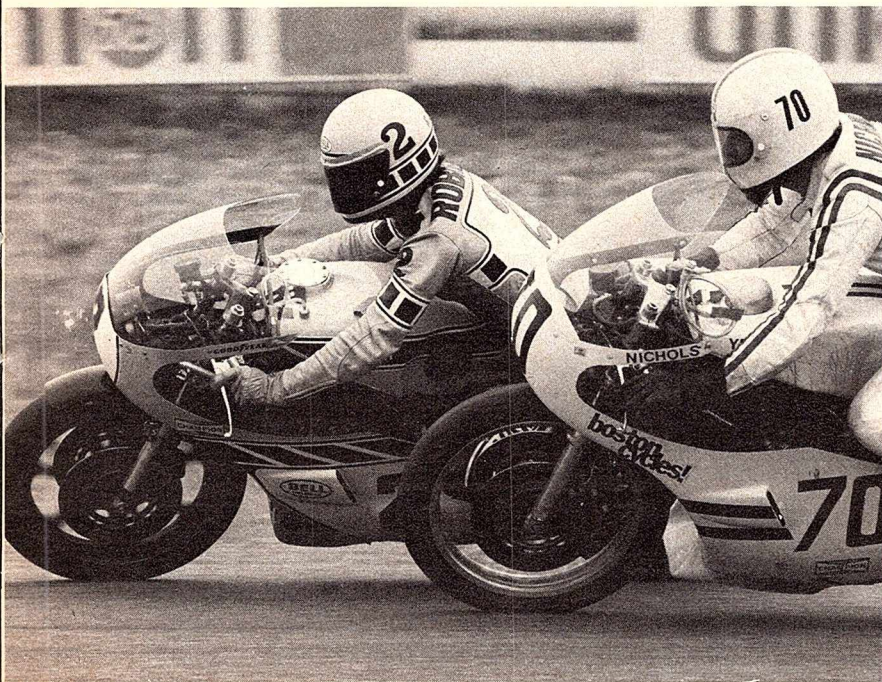


PHOTO: PAUL HALESWORTH

PHOTO: ERICK GRANDBURG



PHOTO: NIC CHEUNG

third source for tires developed this year: Michelin. On the cutting edge of their technology, the big French tire concern works with the Nixon-Kanemoto K-team which gets the latest rubber from Europe. More important to

privateers is Michelin's commercial push, selling treaded fronts which work well with their 250 slicks or treaded rears. Indeed, some 250 riders mount the S41 Michelin on front with a Goodyear or Dunlop slick on back.

A couple of things have made Michelins popular. First, the French tires are less expensive than either Dunlops or Goodyears, and last longer. Second, many privateers find the treaded Michelin front reassuring at transitional lean angles; they chatter less than the American or British tires. On the other hand, the super-aces snap their 250s into corners, instantly going from upright to full tilt, and under those circumstances neither Dunlops nor Goodyears produce much transitional chatter.

Off the start line Baker moved his TZ-250 into a commanding lead. Ken Roberts started slowly on his new tires, finding out what they would do and what their traction was like. Then KR clicked his computer on go, and his Yamaha swooped toward the front, relentlessly picking off riders until he passed David Emde for second. Roberts tried to get within striking distance of the Canadian Yamaha. Meanwhile Baker managed a couple of slides,

including a heart stopper in Nine—the slow, right-angle left-hander—where the bike skidded, caught itself, fetched straight up and nearly cast Baker off. But he stayed on board. These escapades and Roberts' drive closed Baker's margin down about three seconds at one time. But that was as close as KR would, or could, get to the flying Baker.

Dave Emde, riding as hard as he dared, couldn't quite hang with Roberts and lost contact. Any more speed, David later reflected, would have brought him down.

Skip Aksland and Mike Devlin had one of those I'm-so-near/you're-so-far battles going for fourth place. Devlin, enjoying a trouble-free ride on his stock monoshocker, always had Aksland in his sight but just outside his grasp. When traffic balked Skip, Mike could almost reach him. But if anything slowed Devlin, Aksland could make distance. The pluses cancelled the minuses. Skip's Yamaha nabbed fourth, and left fifth to Devlin.

Although Yvon duHamel finished second to Baker in one 250 heat race, a first-lap crash in the final took out his Kawasaki KR250. Nixon got his water-cooled mini-meanie into the first five, but then a leaking rear tire retarded his progress, which finally ended with a flat. Ron Pierce, unhappy with his KR250's squirrely handling, left it in a safe place for the final—the paddock.

No important development work has been done on the KR250 because Kawasaki has been preoccupied with the KR750s. Indeed, only twice has KR250 reached a super-competitive level: Ontario 1975 and the heat races at Daytona 1976. Otherwise the KR250 has been a magnesium-and-titanium promise trying to come true.

Erv Kanemoto hasn't been sitting around, waiting for the future to arrive, hoping that Kawasaki would provide KR750s capable of

Winning Every Mile

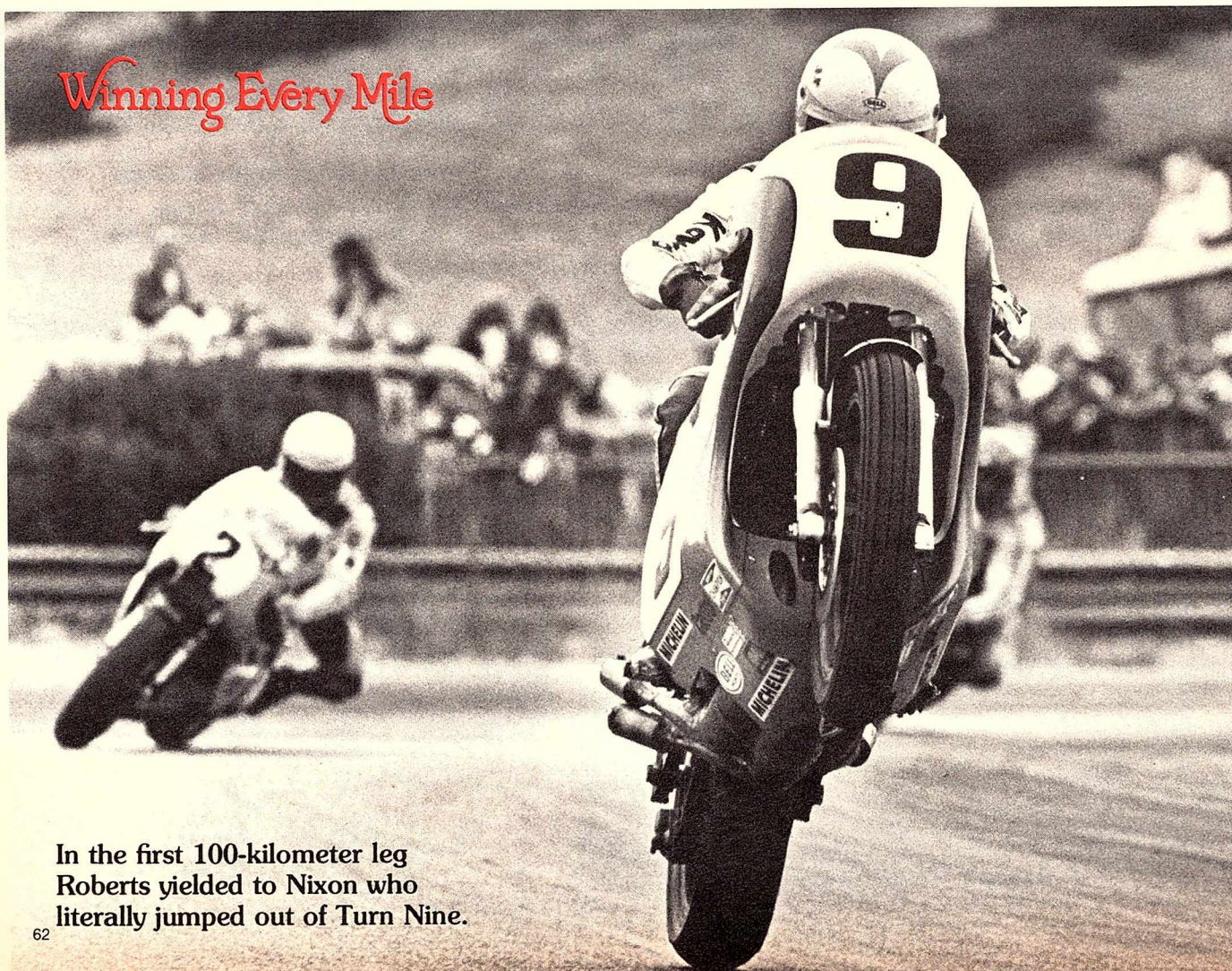


PHOTO: MUSH EMMONS

In the first 100-kilometer leg Roberts yielded to Nixon who literally jumped out of Turn Nine.

biting OW-31s. His new C&J-built frame, originally scheduled for Loudon, appeared at Laguna Seca. The main frame is constructed of 1½-inch tubing, and that's gigantic compared to the 1½-inch material that convention deems adequate. All other things being equal, this jump in diameter greatly increases chassis rigidity. The steering crown looks as if it has been machined from solid billet, though it's fabricated from eighth-inch alloy plate. The engine has been placed as far forward as possible, and wheelbase is about 55 inches, a bit shorter than Kawasaki's own frames. The rear swinging arm is not a parallelogram, triangle or whatever. The arm is a very massive piece which attaches to the frame and shock absorbers in all the old familiar laydown places.

The chassis is a logical development of the one Kanemoto designed in the Suzuki-Nixon-Kanemoto era. Judged by today's standards, where nothing is bizarre unless the rear-suspension trapezoids run through the transmission cases and the swingarm pivots on the crankshaft, Kanemoto's design is arch-conservative, the Jesse Helms of frames. But unlike most of the trendy hardware, the frame worked. Nixon rode the new bike and old one back-to-back. The choice was obvious. "You can roll the old one away and park it," said Nixon.

There was one funny detail about the new bike. A fuel-tank check revealed that its capacity exceeded the 6.3-gallon AMA limit. Kanemoto had an expedient, ingenious solution. Would you believe 72 ping pong balls?

Quick fuel stops would play no role at Laguna-Seca—but they might have. The promoters, Gavin Trippe and Bruce Cox, had originally considered staging a 200-mile race, much longer than Laguna's traditional 125 miles. The 200-mile plan had much to do with international FIM politics. Trippe-Cox wanted to elevate Laguna Seca into the international big-time by making the 1977 event an official round in the FIM Formula 750 Championship, and thus attract a lot of foreign entries. That in turn would raise the spectator appeal, and thus the attendance, and eventually the profits. FIM rules require that all F750 events must be 200 miles minimum. So that meant running a trial 200-miler before an FIM representative in 1976 to prove that the 1977 event would be feasible—it's the FIM way of doing things.

The prospect of an international Formula 750 event at Laguna likewise appealed to Champion Spark Plugs, the former underwriter of the now-defunct F750 event at Ontario. Champion, easily the classiest sponsor in motorcycling, moved their chips from unseemly Ontario to Monterey—which has the glamor and style to match Champion's good taste and bankroll.

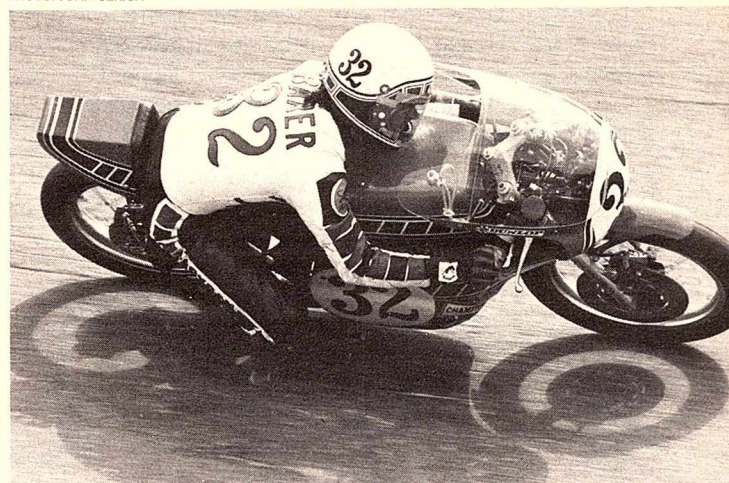
Admittedly the Laguna track is not the Racer's Plant (complete with garages and showers) found at Ontario. But Laguna spectators can actually see the race and breathe clean ocean air, and Monterey (the town) is a beautiful place. That puts the event in a different league from Ontario, where spectators must squint to see the bikes and everyone walks around inside The Great Airborne Sludge Monster, otherwise known as the Ontario atmosphere.

Good sense rescued Trippe-Cox and Champion from staging a 200-miler, either in a straight shot or in two 100-mile legs. Laguna just doesn't have the physical facilities to handle a 200-miler; to do it right you need a Plant. Moreover, most long races are a bore. The spectators who don't go home early all doze off after the first 75 miles. After 125 miles almost everyone is baffled.

Trippe-Cox and Champion plunged ahead, and did it their way. Two 100-kilometer legs with two starts and two finishes would produce closer, more comprehensible racing. The Champion Spark Plug Classic, as seen from the spectator fences, would offer bonafide racing entertainment. And what of the FIM? Simple. The promoters wheeled the FIM rep around, pointing out that Laguna Seca was the proper size and length for a Formula 750 event in 1977: Laguna, don't you see, is perfect; only the FIM rules are too long. And couldn't the FIM see it that way?

NOVEMBER 1976

PHOTO: JOHN ULRICH



(Above) Steve Baker's TZ-250 proved just as invincible as his OW-31. He left Roberts to scrap with David Emde (below), but KR soon pulled away for second.

PHOTO: JOHN ULRICH

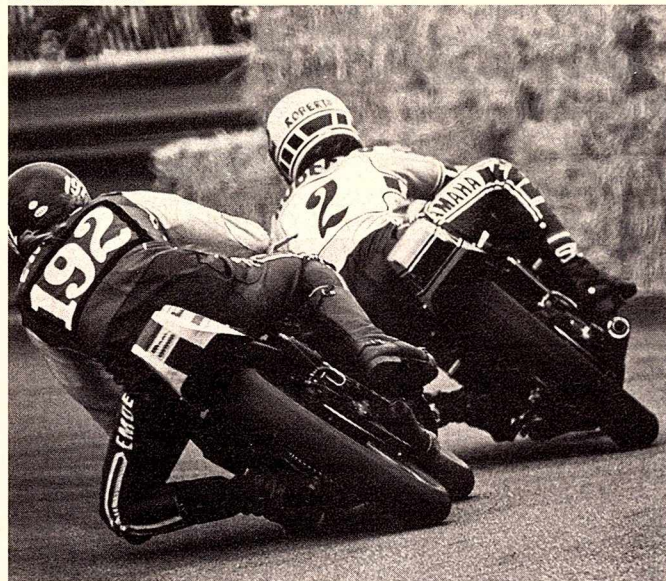
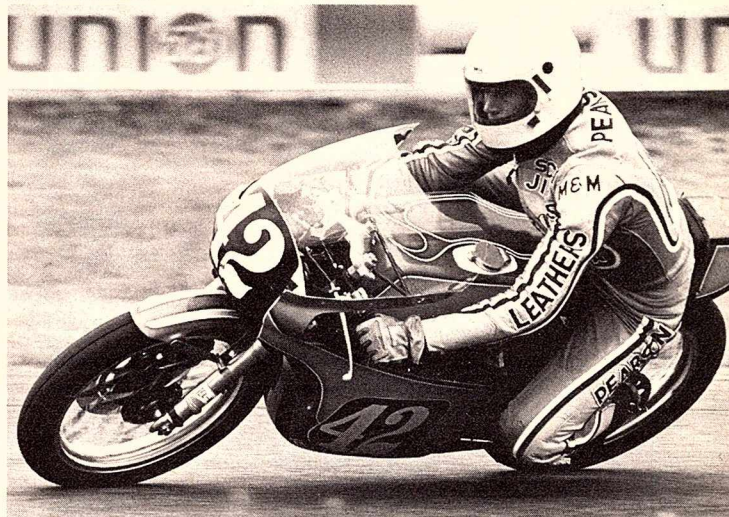


PHOTO: MUSH EMMONS



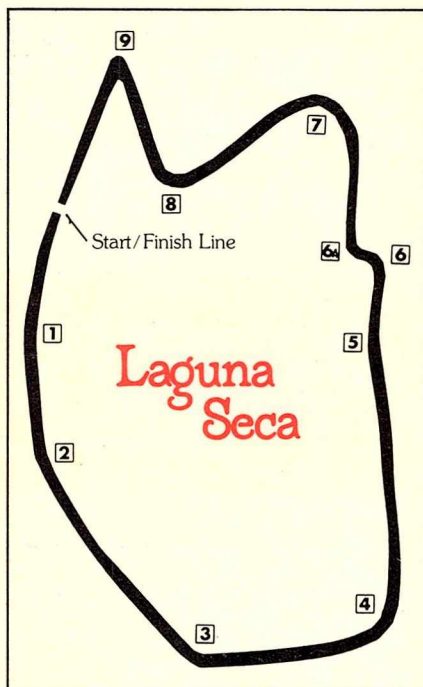
Scott Pearson (above) massacred the Novice lightweight field by going faster—and getting smoother—every lap.

For Steve Baker distance mattered little. Every mile was his. Baker made a blazing departure at the start; thereafter most of the competitors would catch his blur while being lapped. The others would see Baker again during the intermission between legs, sipping Gatorade and smiling.

Trailing Baker and lying second in the opening laps, Ken Roberts was steadily riding himself into another tire dilemma. His Goodyear rear slick was going away, and the monoshock unit in OW-31 began to malfunction, thus aggravating Roberts' problem. Some tire experts—not in the Goodyear camp—wondered out loud whether the rear Goodyear slick wasn't overflexing, and consequently overheating and losing traction.

Michelin-shod Gary Nixon pounced on Roberts' ailing OW-31, seized sec-

(Continued on page 83)



LAGUNA SECA RESULTS

750 OVERALL

1	# 32	Steve Baker	Yamaha
2	2	Ken Roberts	Yamaha
3	29	Randy Cleek	Yamaha
4	1	Gary Scott	Yamaha
5	3	Gene Romero	Yamaha
6	83	Steve McLaughlin	Yamaha
7	17	Yvon Du Hamel	Kawasaki
8	27	Skip Aksland	Yamaha
9	84	Walt Foster	Yamaha
10	111	Hap Eaton	Yamaha

250 EXPERT

1	32	Steve Baker	Yamaha
2	2	Ken Roberts	Yamaha
3	192	David Emde	Yamaha
4	27	Skip Aksland	Yamaha
5	63	Mike Devlin	Yamaha
6	52	Kevin Stafford	Yamaha
7	143	Mike Clarke	Yamaha
8	186	Mike Baldwin	Yamaha
9	118	Richard Schlachter	Yamaha
10	50	John Long	Yamaha

250 NOVICE

1	42	Scott Pearson	Yamaha
2	127	Randy Mamola	Yamaha
3	2	Harry Klinzmann	Yamaha
4	9	David Garoutte	Yamaha
5	122	David Nees	Yamaha

SUPERBIKE PRODUCTION

1	163	Reg Pridmore	BMW
2	251	Keith Code	Kawasaki
3	266	Mike Parriott	Kawasaki
4	38	Dick Fuller	Yamaha
5	271	Jim Haberlin	Triumph

PHOTO: FREUD



Flying Beemers: Reg Pridmore (above) rode with calculating brilliance, and flew in first. McLaughlin's bike did a barrel roll.

PHOTO: MUSH EMMONS

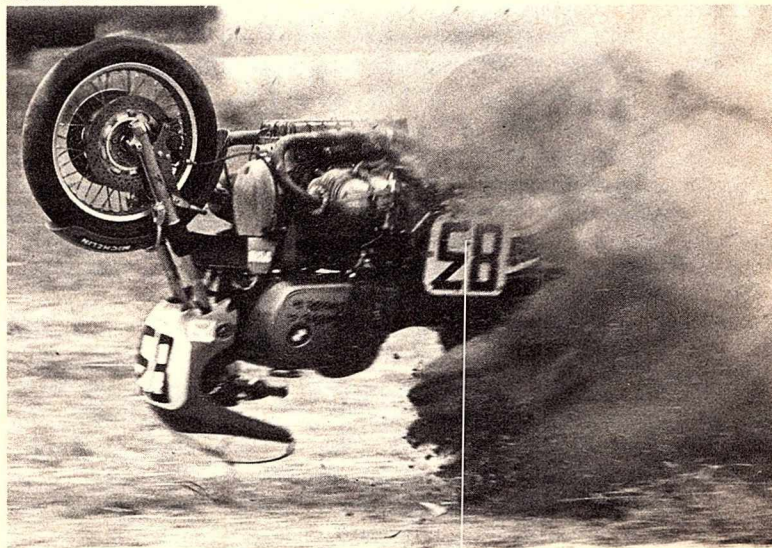
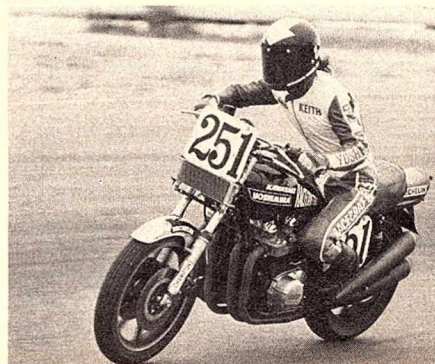


PHOTO: PAUL HALESWORTH



Keith Code on the number-two Yoshimura Kawasaki 1000 led the Superbikes early on, and finished second.



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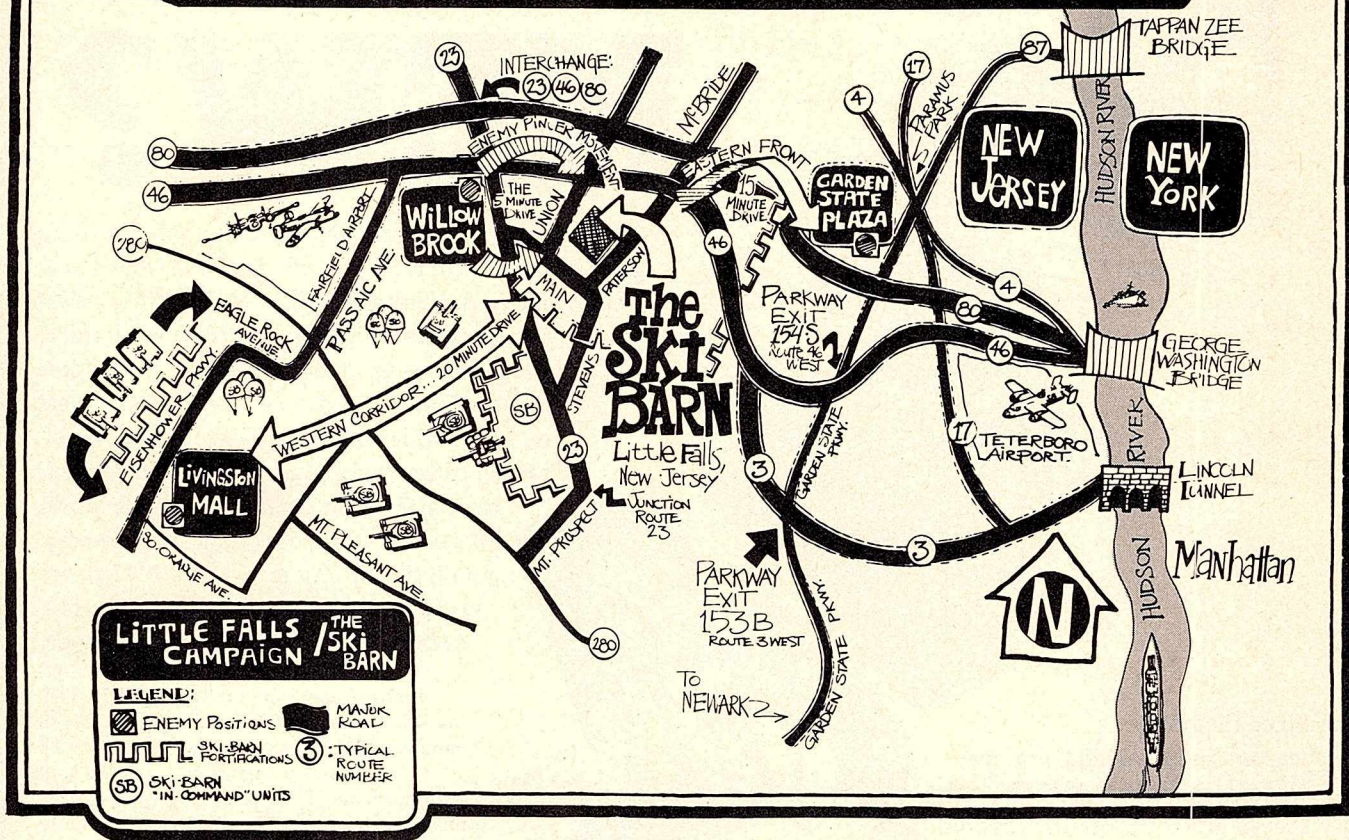
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1924 INTERNATIONAL SIX DAYS



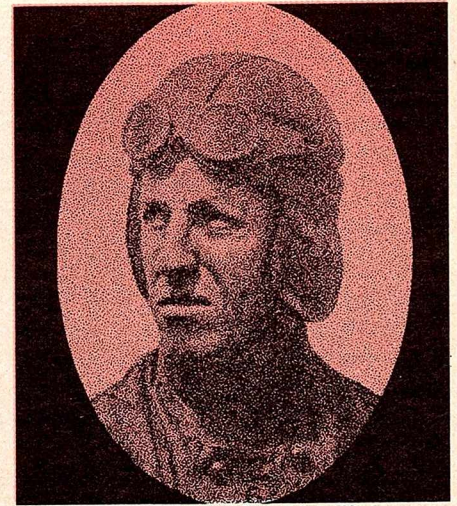
By Goodwin Sands

WHILST DOUGHTY LITTLE BROWNE, LTD., will most be remembered for edentate forays into international road racing during the years 1911-1923, those certainly did not comprise the whole of this splendid Manx firm's sporting involvement. Sir Thomas Browne's extraordinary motor cycles were intended for use on public roads, and outfitted in a manner suitable to that purpose, so it was to be expected that they would most often be raced over hard-surfaced circuits. However, those of us privileged to be present through Browne's innovative though lamentably brief existence know there was nothing in the behaviour of Sir Thomas or his distinctive creations to suggest slavish, uninteresting devotion to the straight, smooth and narrow path. On the contrary, Sir Thomas' disregard for the constraints and inhibitions of the small-minded was conspicuous in his character, and men who rode his machines found in all of them — beginning with the seminal Browne Grackle of 1909 and including the last, lone Browne Parvenu constructed late in 1924 — a spirited eagerness to escape humdrum, kerbed confinement on the road.

Malcontents being a ubiquitous component in the human race, with representation within even the British Isles' usually phlegmatic populace, Sir Thomas sometimes was obliged to hear complaints concerning the headstrong quality of Browne motor cycles' handling. It was true that the Great Man's devices did require firm hands at the reins, a thoroughbred's trait, but Sir Thomas was too completely an aristocrat to share in the common tradesman's vulgar obsession with customers' every fevered imagining



TRIAL A BROWNE DAY IN HISTORY



Horace "Hurdies" Maffick

and he did not suffer such criticism quietly. Written communications that might prove upsetting were, following Sir Thomas' specific instructions to his staff, merely added to a heap maintained at the ready in a men's convenience behind the Browne workshops. Even so, there was the occasional personal encounter with an unappreciative Browne owner to be endured, and it must be conceded that Sir Thomas tended to be less than diplomatic. "God stone the crows," he would bellow, "are you so timid a milk-livered, faery chappie that a bit of excitement sets you mewling for your ruddy mum?" The Great Man's habit of slashing about in agitated fashion with his riding crop lent an especially forceful emphasis to these rebuttals, and complainants were quickly shamed into taking their quarrelsome dissatisfactions elsewhere.

The reader should understand that most of the sturdy fellows who owned Browne motor cycles accepted their machines' strongly individual behaviour with happy equanimity, and many of them came to positively delight in the unexpected. Typical of these stalwarts was my old school chum, Horace "Hurdies" Maffick, who laughingly said of his beloved Browne Cassowary, "When it's plugin' off the road she wants there's naught to do but shout the navvys out of the way and pray ye don't fetch up agin'st somethin' terrible solid." Hurdies' jovial good nature was the perfect complement for Browne ownership and it saw him through numerous unanticipated diversions off-road before he at last came to relish travels over tilled fields more than on asphalted roads. In consequence of this curious predilection my chum Maffick became first in the group it was Sir

Thomas' went to call his "Brownies" to deliberately ride in an off-road competition, the event being a reliability trials. Pride of place was claimed by another Brownie, a Welshman who rode several miles of a trials near the mining community of Lldwyndfynydd, Wales, before he succeeded in regaining the road, but that adventure was accidental rather than planned and hardly deserves to be counted as a first in the Browne's extremely eventful history.

Sir Thomas Browne was not one to let the main opportunity slip past unnoticed and it continues to be surprising today, some fifty years after the fact, that he did not sooner direct Browne, Ltd.'s competition effort away from road racing. For even those of us who stood as undaunted Browne loyalists could perceive that events rewarding sheer speed were not Browne motor cycle's forte. Sir Thomas' "Browne Wave" racing team added an unforgettable kind of colour around the continent's *circuits de vitesse*, and the Great Man himself became famous for the heightened intensity he gave to every social gathering, but whilst racing's regular entrants — Nortons, Sunbeams, Anzani, et al — frankly feared to share any circuit with Browne, the Wave was more apt to be steeped in gloom upon its return to Browne's Douglas factory than wreathed in laurels. Still, despite repeated setbacks, Sir Thomas would not for a very long time entertain suggestions that perhaps, in recognition of his motor cycles' clear preference for a stately pace and the uncharted track, the full weight of Browne's resources should be brought to bear in an off-road endeavour.

The most telling argument in this matter would have been a mention of the relatively splendid showing the Browne Wave made in America, at the Daytona races of March, 1923, which (contrary to expectations) were conducted along a stretch of sandy beach. Unfortunately, owing to some unpleasantness incidental to that affair, Sir Thomas could not hear any reference to the Wave's American expedition without becoming overwrought. Indeed, my own role as team manager at Daytona that fateful year was enough to cast me out of favour with the Great Man, and I feared to raise the potentially disquieting issue of Browne motor cycles leaving the road until some months time had elapsed and the unreasonably vengeful Floridian authorities had ceased in their efforts to extradite Sir Thomas back to their uncivilised peninsula.

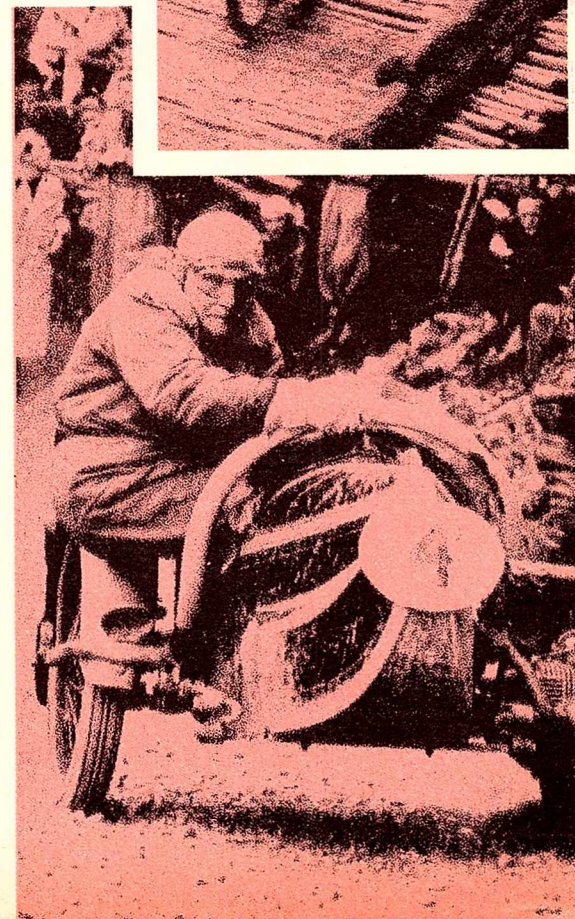
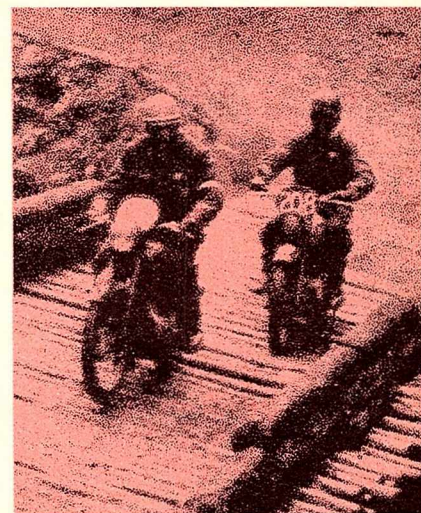
There being reason to wait for a propitious moment, it was not until a day late in the autumn of 1923 that I thought

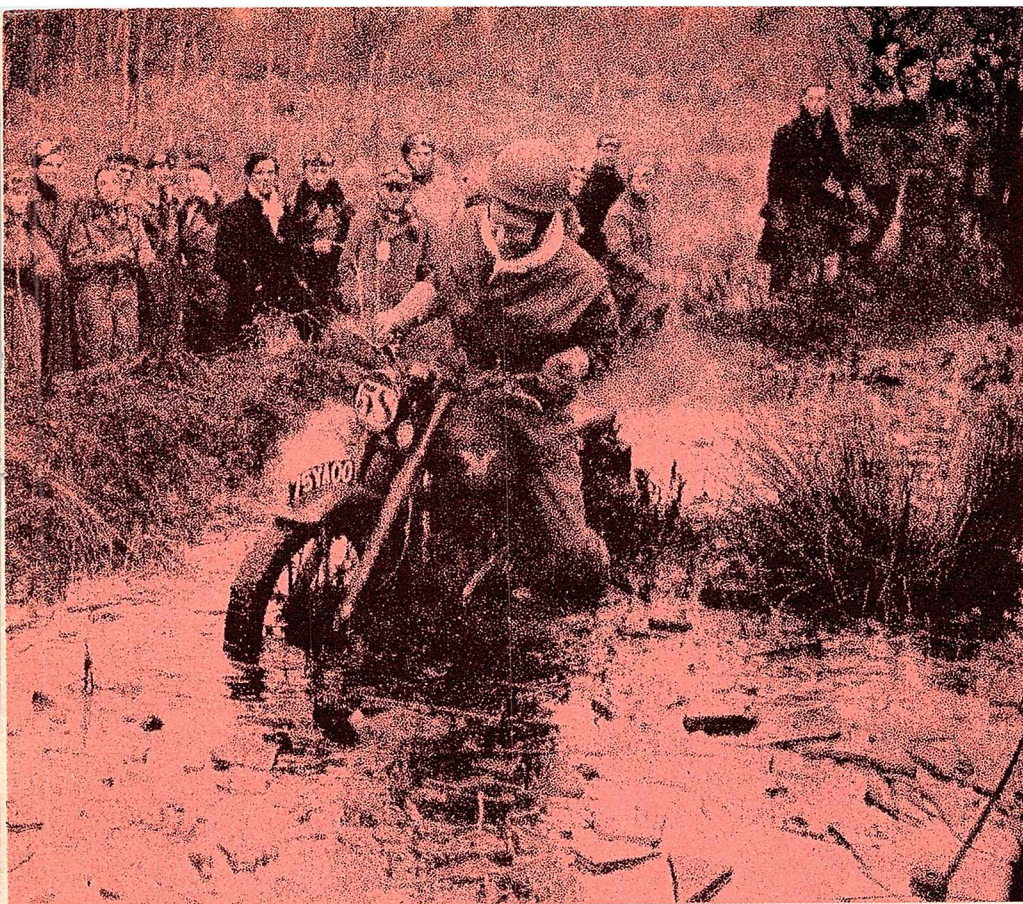
it wise to hazard a few words in favour of sending the Browne Wave off-road — where the motor cycles seemed bound to go in any case, though I did not advance the proposal in those terms. Knowing that Sir Thomas' response to unwelcome suggestions usually was more temperate when a third party was present, I chose to reveal my truly ambitious scheme during one of Hurdies Maffick's frequent visits to Douglas. The precise moment of the unveiling was selected with equal caution. Sir Thomas, Hurdies and I were two or three hours into congenial relaxation at a public house, the Cock and Shoat, when I judged the time to be right. Interrupting Sir Thomas' familiar tale of how he lost youth's innocence and a valuable signet ring during a schoolboy outing to Marseilles I murmured, "Your grace," for the Great Man would not countenance excessive familiarity, "have you given any thought to the International Six Days Trial?"

For a long and frightening moment it did seem as though I had mentioned the wrong subject at the wrong time to absolutely the wrong man, but in that I happily was mistaken. My misapprehension was, I think, entirely understandable. Sir Thomas was after all quite sensitive to the whole question of his Brownes' off-roading, and painful experience had taught me sensitivity to his rather mercurial moods, which meant I did become alarmed when I noted that his ruddy complexion had suffused with purple and he had begun groping about for his riding crop. But it soon developed that something else must have made him appear choleric, for even though my unpredictable chum Maffick at that point thrust himself into the discussion with a volley of unwelcome objections, Sir Thomas proved to be much taken with my ISDT plan, and was not persuaded away from it by the dreadful things Hurdies was saying. What Maffick said amounted to a stinging indictment of the ISDT's moral tone. "Those bleedin' wogs," Maffick huffed, "ave got the whole flamin' thing arranged so's ye can't win without cheatin' somethin' shockin'. Why, an honest Manxman wouldn't have a chance with that lot of perishin' blackguards. You tell me which works team it was what won this year's ISDT and I'll tell you where to find the worst covey of swindlin' swine between Calcutta and Calais."

Maffick's outburst came before I could present my own carefully marshalled persuasions for Sir Thomas' consideration, but my ISDT suggestion must have taken root. Although Hurdies blathered on with his tale of Six Day iniquities, of

A BROWNE DAY IN HISTORY

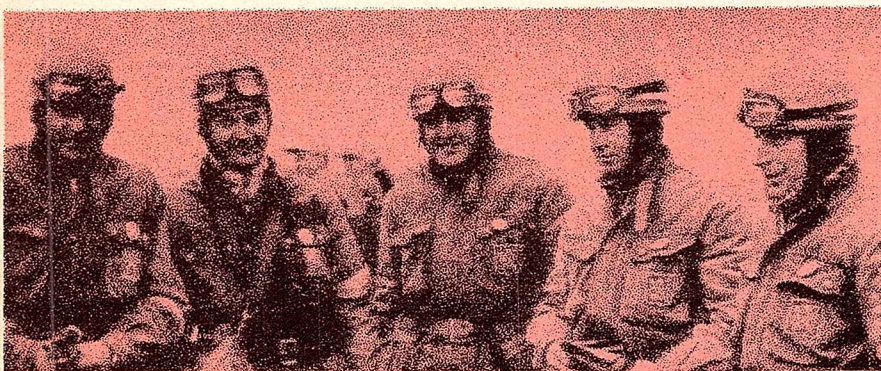




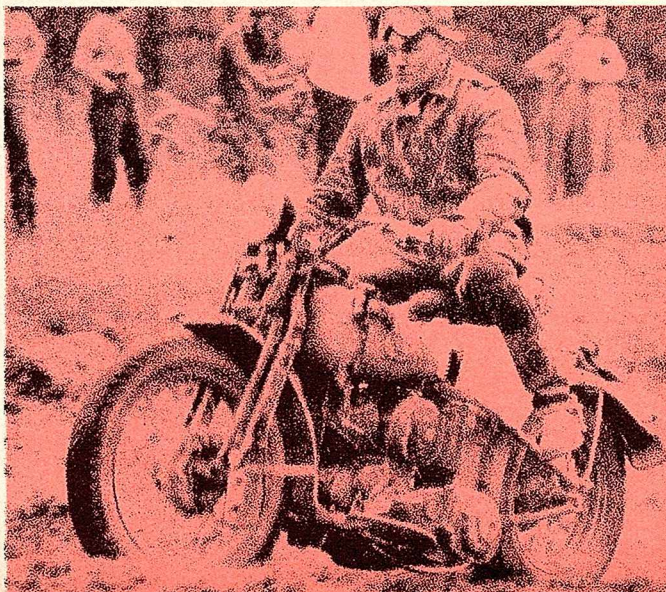
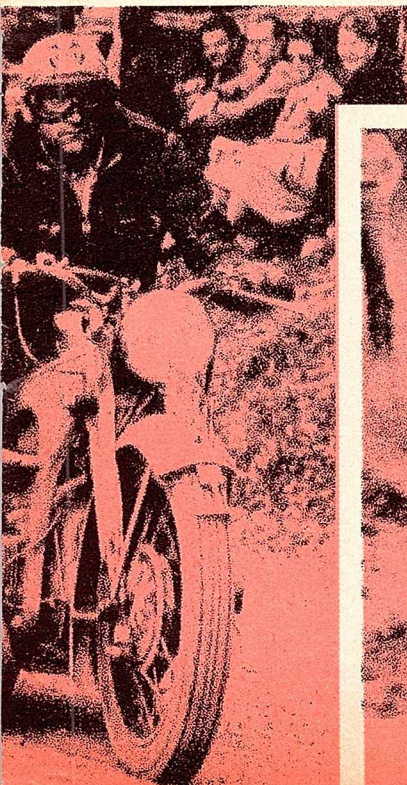
how victory could not be taken except in stealth, cheats, and transgressions not only on the event's rules but also those governing decent human conduct, his view did not prevail. Indeed, the Great Man brightened very perceptibly as Hurdies' gratuitous objections spilled forth, the liverish colour subsiding and his close-set eyes regaining their customary shifty glitter. At last, Sir Thomas blessed me with one of his tigerish smiles, and I knew that despite his frequent remarks to the effect that "Clods are for clods," the Browne Wave in all its glory would be unleashed in the ISDT.

What I did not foresee, could not have anticipated, was that Sir Thomas would insist upon your humble and obedient servant taking an unprecedentedly active role in Browne's International Six Days Trial venture. Of course the thought had occurred that I might be invited to again serve in my Daytona capacity as the Wave's manager, and I was nothing loath to undertake that responsibility. The Continent is very pleasant in September and the Isle of Man seemed just then to be awash in importunate creditors. However, Sir Thomas was not of a mind to have me with the ISDT Wave in a reprise of my American performance, though he said that not the smallest detail of what had transpired across the Atlantic would ever escape his memory. Then, following a half-hour's discourse on those details, the Great Man sprung his surprise: "This time, you wretched scut, you'll do a real job of work, and do it where you won't be sniffing after crumpet at my expense. You'll ride for me, you nasty little toad, or I'll have your tripes for suspenders."

Sir Thomas loved to affect a gruff manner even when speaking to those of whom he was fond, and it was the content rather than the tone of what he said that gave me pause. Honesty impells me to confess that the prospect of riding a Browne motor cycle for six consecutive days along poorly maintained trails in weather that might be inclement was not altogether appealing. In consideration of these tiresome aspects I attempted to decline the Great Man's invitation but quickly ceased out of concern for his health when I observed that the knuckles of Sir Thomas' crop-wielding hand were whitening. And with all discussion of the matter quite obviously closed, I resolved to comport myself in such a way that if, in the end, Browne's proud banner was to be trampled in the ISDT mud, Goodwin Sands could not be held accountable. The Great Man did not after all, despite his close familiarity with disappointments, accept them with aplomb and was apt to be quite remarkably stern with



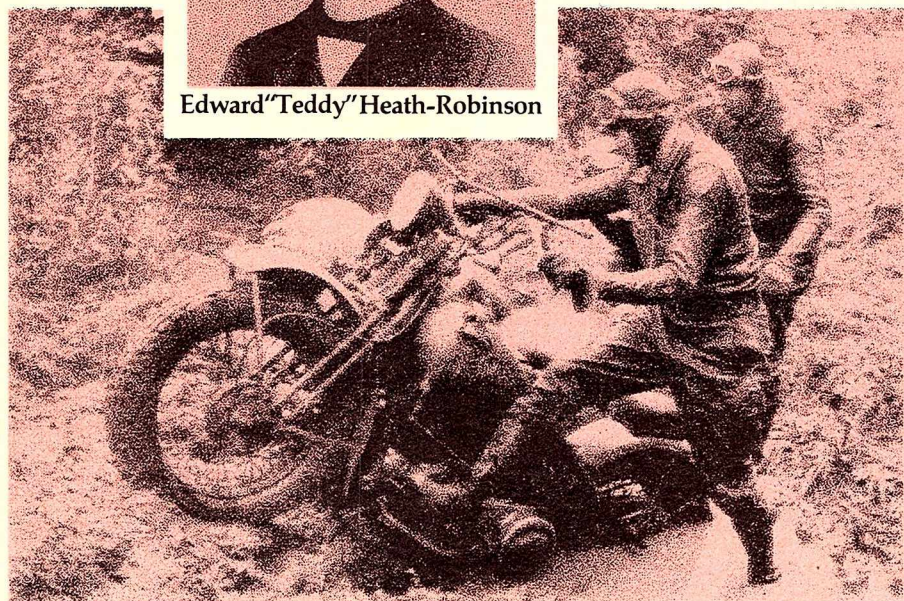
Scenes from the '24 ISDT: One rider had a wind-driven wiper on his face shield. Others struggled, socialized (above) and some suffered most grievously, as below.



A BROWNE DAY IN HISTORY



Edward "Teddy" Heath-Robinson



those he fancied had let down the side.

Anyone having even passing acquaintance with the International Six Days Trial will surely know that this competition is not joined without much preparatory labour, and in that regard it was fortunate that Sir Thomas' decision to hurl the Browne Wave at the 1924 ISDT should have followed hard on the heels, as it were, of the 1923 running. Another stroke of good fortune was that I was permitted to terminate my reporter's position with the **Douglas Times**, which left me free to devote myself entirely to the Wave's needs. My employer at the newspaper seemingly had learned of the ISDT venture, for he bade me goodbye upon my first appearance at my desk after the decisive meeting with Sir Thomas, and said he was not distressed to see me leave even though the journal was in the midst of a legal action resulting from a story I had penned.

The very first task Sir Thomas set for me was a survey of Browne owners to discover what manner of problems the Great Man's motor cycles developed whilst in service, as that would point the way for the correction of weaknesses that otherwise might prove disabling in our ISDT machines. In aid of that, I retired to the men's convenience behind the Browne workshops and gave the best part of many days to the study of the Browne owners' letters heaped there. This reading

did not, I am obliged to admit, inspire confidence. If the object of my research was to find weak points in Browne motor cycles, the actual result was to call into serious question the assumption that these unique machines possessed strengths. By all accounts there was no part of any Browne ever manufactured that had not at some time, often with monotonous regularity, proved unequal to the most modest of demands. Only the thought that there surely were many fully satisfied Browne owners who'd had no reason to write letters of complaint, and Sir Thomas' assurances that he did have the approval of what he termed, "My silent majority," gave me the heart to go forward.

Recognizing that specialised knowledge of the requirements peculiar to the Six Days Trial would be useful, Sir Thomas secured the services of an experienced consultant to guide the Wave's mechanics in preparing the Browne ISDT machines. Our hired expert was the famous Edward Heath-Robinson, whose influence in British motor cycle design was so strong as to be visible right up to the present, and who discovered in the Browne a device that might well have sprung directly from his own creative inspiration. "Teddy" Heath-Robinson was delighted with the Browne Monovalve engine, and utterly ecstatic about the motor cycle's ratchets-

and-rods transmission system.

As was explained in the Browne history published by *Cycle Magazine*, in the April, 1974, issue, the Browne engine had a single poppet valve serving both intake and exhaust functions. The valve let the exhaust gases escape directly into the atmosphere, rather than directing them into a conventional port and exhaust pipe, then remained open during part of the intake stroke for the admission of air. Browne's monovalve closed only for the second half of the intake stroke, when the farther downward piston movement drew a vacuum in the single cylinder and, finally, the piston's arrival at bottom center uncovered a ring of ports and a very wet mixture flowed in through these to charge the cylinder.

Of added interest was the Monovalve engine's ignition, which was a hot-tube maintained at firing temperature by a small carbide lamp. But the most imaginative feature of the extraordinary Browne was the system of levers, rods and ratchets that comprised its drive: slotted levers driven by eccentrics at the ends of a half-engine-speed shaft tugged at a pair of pull-rods, which were in turn linked to another pair of levers flanking the rear hub. These last levers connected with the hub through sets of ratchets, so that whilst the levers themselves swept only a partial arc the ratcheting action kept the wheel rotating more or less steadily forward.

Browne, Ltd., was then embroiled in an acrimonious dispute with His Majesty's Ministry of Transport and Roads, the point at issue being the roadworthiness of Browne motor cycles. I have always suspected that some of Sir Thomas' enemies had a hand in this, as governmental agencies — albeit exasperating — do not often stoop to name-calling in the public forum, a breach of ordinary policy of which the M of T & R certainly were guilty. During a parliamentary inquiry a Ministry spokesman singled out the Browne while arguing for statutory minimums in motor vehicles' braking, lighting and directional stability, saying that "The Browne motor cycle stands as a horrifying example of the kind of diabolical contraption we must prevent from gaining access to the public roadways." The remark was inflammatory, and even the members of parliament very probably would not have been influenced in the Ministry's favour by that sort of shabby billingsgate had not Sir Thomas shortly thereafter sought out the government's spokesman and savaged him quite severely with his riding crop. Parliament then voted its sympathies, which of

(Continued on page 74)

What a fairing is and why you need one.

Anyone familiar with motorcycling has to have noticed the increased use of fairings on the road these days. Why is this? What does a fairing do and why are they so popular?

To you or any other rider, no fairing is worth a cent until you know the answers to two questions:

1. What should you be getting for your money?
2. Are you getting it?

And the first step is to find out what a fairing can be expected to do for you and your machine.

The functions of a fairing.

Except for cafe racing, where some types of fairings can add to speed, a fairing only exists for two purposes:

Riding comfort and weather protection. Certainly, the right fairing can also add immensely to your bike's looks.

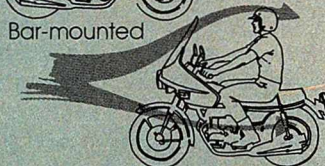
But first and foremost, it should make your riding more enjoyable.

Some types of fairings do so much better than others.

Types of fairings.



Bar-mounted



Frame-mounted

Fairings fall into two distinct categories:

Bar-mounted and frame-mounted. Both are designed to help make riding more comfortable but bar-mounted fairings do little to increase comfort and weather protection.

Virtually any frame-mounted fairing does more than the best of the bar-mounted.

What the ideal fairing will do.

The ideal frame-mounted fairing will allow you to sit upright at high speeds.

It will protect you from wind, rain, flying objects, etc. All of which make riding more enjoyable.

It will also have large storage compartments as standard equipment as well as a long list of options to let you personalize your bike to your needs.

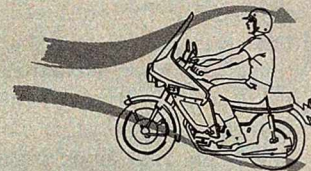
Any frame-mounted fairing does some of these things well.

But one—and only one—does all of them to the fullest extent that modern design and technology permit:

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Not only is the Windjammer III the best fairing on the market (Cycle says "The Windjammer III with lowers offers complete and

total protection. There is simply no draft anywhere. In terms of pure protection the Windjammer is superior to any other unit tested."), but it also offers the



most options. For 1976, it comes in a striking new silver finish as well as black or white.

Our next feature will cover these topics in detail.

You now have a good basis for understanding what you should be getting in a fairing. In other ads in this series I will go into detail on just what makes the Windjammer III the best investment in a fairing, and how you can make this fairing uniquely your own.



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First in a series* by Craig Vetter

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CIRCLE NO. 48 ON READER SERVICE PAGE.



course lay with its servant, and the Browne motor cycle soon was under sanction in England.

But I digress. The point is that with Browne sales halted in England by governmental interdiction there was no need to have Sir Thomas' workforce engaged in the production of touring models and these skilled artisans' attention could be applied to the preparation of the Wave's ISDT machines. Both men immediately were set to work fashioning quick-detach versions of the traditionaal Browne spoked wooden wheels, intricate splash-guards for the engines' hot-tube lamps, and numerous other modifications a thoughtful Teddy Heath-Robinson reckoned we should require. Work on the three Browne Chaffinches needed to make the Wave eligible for the Manufacturers' Cup proceeded with dispatch, and I would have been highly pleased with the course events were taking had it not been for the reappearance of the Wave's on-tour mechanics — Cedric and Jack Cruikshank, and their disgusting cousin.

The Cruikshank *freres*, called "Tweedle Dee and Tweedle Dum" by Sir Thomas in recognition of their bloated similarity, had accompanied Browne's Daytona expedition and it was in America that I came to loathe them and their simian cousin, whose name I cannot recall and whose person and manners I would be delighted to forget. Upon learning that this trio was scheduled to go with us to Chaud Fontaine, Belgium, where the 1924 Six Days was to be staged, I was at pains to tell Sir Thomas that the Cruikshanks' presence would be a grave handicap for the Wave. The brothers' habitual insolence to their betters surely would upset the cultivated Europeans with whom we would be required to deal, and there obviously was not a fragment of decency in them or their revolting cousin. The Cruikshanks were infamous in the Isle of Man for **preferring** sordid scheming to the upright and straightforward. But whilst the Great Man readily agreed with my appraisal of the Cruikshanks and their hulking, malodorous cousin — which he indicated might actually understate their depravity — he would not be persuaded to send them packing back to their ancestral pig farm.

Two of the Browne Wave's riders had defected at Daytona in 1923, one disappearing into hiding and the other vehemently rejecting requests that he rejoin the team, but Sir Thomas was able to retain the services of the imperturbable Rupert Randle, who said he was accustomed to going off the road on Browne's machines and readily agreed to ride in the ISDT. The Great Man had, as explained

previously, chosen me as another of the Wave's riders, which left only one vacant saddle to be filled. Sir Thomas spared no reasonable inducement to entice first-ranking riders for this last vacancy but all those approached either refused the honour (some in unnecessarily rancorous terms) or wanted to be paid. Finally, all the more attractive possibilities having been exhausted, my old chum Hurdies Maffick was offered a place in the Wave. Hurdies was well known for his inability to resist a sporting opportunity, but he was surprisingly diffident about accepting Sir Thomas' invitation, saying that there would be the late-summer harvest to look after and he couldn't spare the time away from his farm. It was here that fate dealt Hurdies a cruel blow, which proved a blessing for Browne. Mysterious fires sprang up at three different points around his farm and in the disaster of a single night my chum Maffick was left without anything to harvest. Hurdies, who was able to save his barn and home, muttered something about warding off further strikes of "Manx Lightning," and reported for service with the Wave.

Owing to confusion and delays in Paris, a city Sir Thomas insisted upon visiting in our journey to the Belgian hinterlands, the Wave arrived in Chaud Fontaine somewhat late and in a state of disarray. We were obliged to go directly to scrutineering, which already was underway, and it was during the stressful time given to unloading machines and support equipment from our lorry that I began to suspect Teddy Heath-Robinson's wonderfully improvisational talents with things mechanical did not entirely qualify him for any other of a team manager's functions. Teddy seemed at that moment unable to recollect even in vaguest outline what it was everyone should be doing, and with help of precisely the sort one would expect of the Cruikshanks and their moronic cousin he soon had the inspection area in a frightful uproar. In retrospect, I think it may have been the conflagration that swept through the **parc ferme** Belgian officials found most distressing, as machines entered by a number of highly-regarded manufacturers were seriously damaged by the flames. Still, it probably would not have been necessary to bring in the gendarmes had not Hurdies inexplicably thought the blaze humorous and burst into laughter. I saw that Maffick's apparent merriment was vexing those whose machines were going up in smoke and tried to clap a hand over his mouth but he broke away and went prancing off shouting, "Manx lightning strikes again."

Given the lateness of the Browne

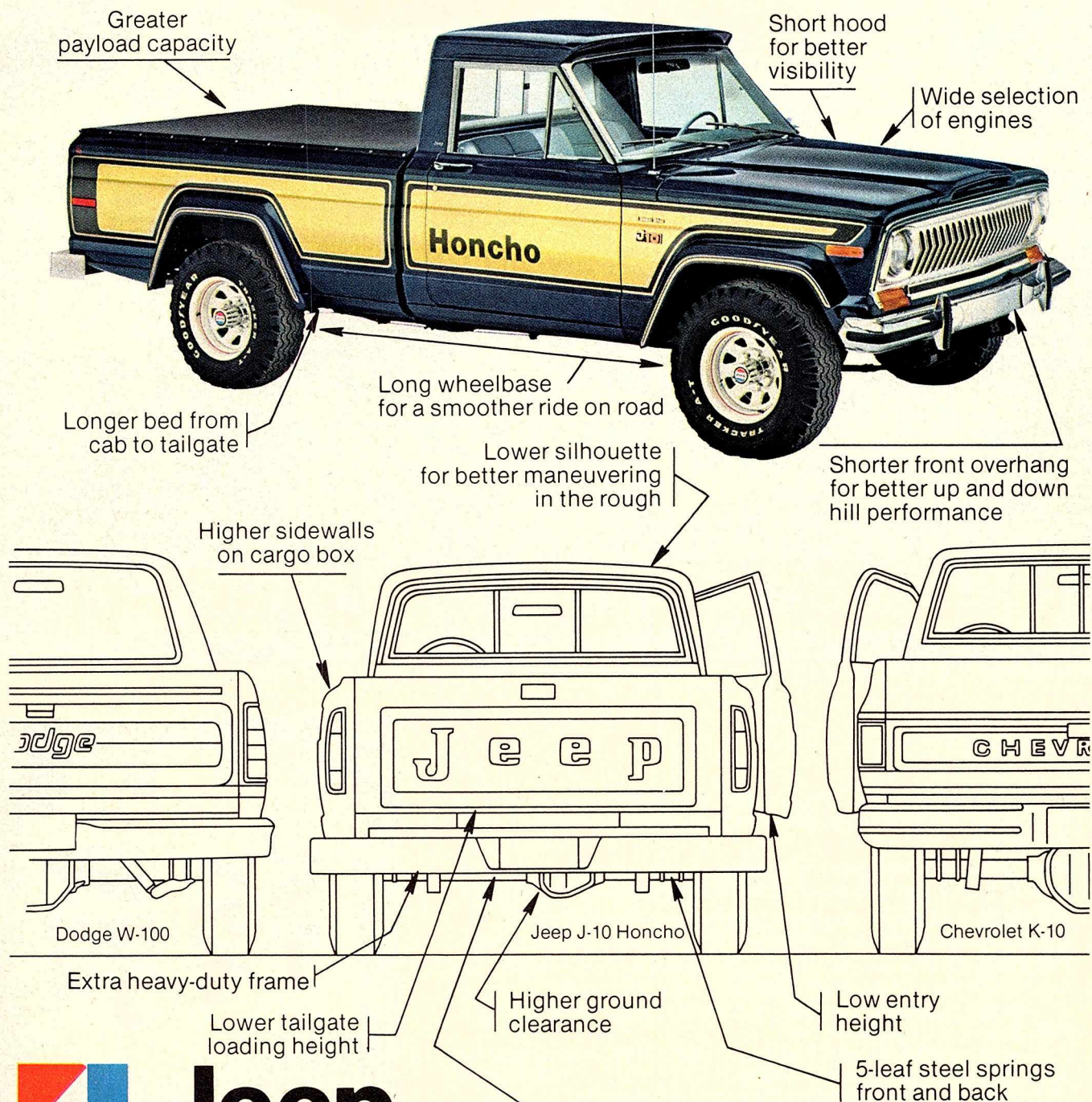
Wave's arrival, and all that transpired shortly thereafter, one would have anticipated that our specially prepared Chaffinches would not pass by all the scrutineering stations until late in that September evening, but it was to be half-past-10 o'clock before we were clear and our machines were tucked away for the night in the still-smoldering impound area. The further delay was, I learned, brought about because a person or persons unknown had in the confusion stolen a supply of the wire, lead seals and special marking pliers used to prevent the substitution of major components, an expedient forbidden by the ISDT rules. One of the Belgian officials had the temerity to approach me with some nastily pointed questions about the affair and snarled something about seeing "Browne's hand in this." It gave me a start until I realized English was not his native language. He doubtless meant to say he suspected the Black Hand, a gang of Sicilian bandits, who might well have been at work in the behalf of the Italian ISDT team.

Actually, the most appalling aspect of that evening's events was to discover the scheduled departure time each morning of the Six Day was a ghastly 7:00 A.M. I found that hour, though well-suited to the rising of suns and poultry, to be utterly unacceptable to a gentleman and did not hesitate to make these sentiments known. To my sorrow, the continentals proved not to be nearly so cultured as I had imagined them, for when I petitioned the Belgian officials for a starting time more in keeping with my accustomed hour of quitting bed, they churlishly refused — and drove me away with a fusillade of horse droppings when I rightfully persisted in my objections. This, from people who feel free to penalise riders merely for smoking cigarettes in their impound area.

Truth be told, I likely would not have made an appearance in the impound enclosure that next morning until a time of my own choosing but for the assistance of Sir Thomas, who dropped in at my hotel soon after the concierge had opened its doors. It was not the Great Man's habit to be about early in the morning except in consequence of having been about very late at night and I surmised the latter to be the case. Only fatigue could have caused him to misjudge in pouring water from a large pitcher to such extent that he completely missed the basin on the nightstand beside my bed and emptied the pitcher's contents in the bed itself. On the other hand, Sir Thomas may have been trying to extinguish a fire that had

(Continued on page 77)

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INTRODUCING

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CIRCLE NO. 83 ON READER SERVICE PAGE.

flared up in my bedclothes, but even there his aim was bad and, the water failing to do the trick, he tried beating out the flames with his riding crop.

With the Great Man demonstrating such tender concern for my well-being, I set forth from the hotel determined to do my very best for Browne's Wave. It was in such a mood that I entered the impound area, where determination would be a good thing: Browne Chaffinches (like the Cassowaries, Grebes, Curlews, etc. before them) were no more eager than I about activity in the dark dampness of morning. My chum Maffick and Rupert Randle were already standing beside their machines when I arrived, and moments later the officials signalled that we should push our Brownes out of impound and into the adjacent work enclosure, where we would have 10 minutes to ready them for the day's riding. These minutes we gave to filling the Brownes' numerous oiling cups, and to lighting the carbide lamps under the ignition hot tubes. This last service procedure raised some eyebrows, as the rest of the world's motor cycles had by 1924 adapted electric-spark ignition, and one opposing team's manager protested on grounds that it should be counted as part of an attempt to start the Brownes, which could only be done one minute before departure onto the course. Teddy Heath-Robinson then began disputing the matter with his protesting counterpart, Signor Marcello Malocchio of the Italian Raggirone team, and their loud arguments called the Belgians into consultation, which once again set the impound area into uproar.

Before the above dispute could be settled the Browne Wave's departure time came up, and we set forth on the trail. I was happy to be away in the clear as some of the officials had by then become openly hostile at the mere sight of a Browne, and had begun to do what they could to damage our spirits. One such ploy was to assign the Wave a starting time suitable for 50cc-engined machines, though they knew very well our Brownes were 500s, which meant we had to depart while most of those in our competition class were still in impound. As it happened, all worked out for the best — at least in terms of our departure. So great and enveloping was the commotion sent up by our Teddy, Signor Malocchio and the various Belgian officials, we were at a loss to know just when it was we were supposed to start. Being in doubt, and mindful that a rider's desire to start often anticipated by many minutes a Browne motor cycle's willingness to do likewise, we did not wait for instruction. The time gained in that

(Continued on page 78)

NOVEMBER 1976

PATCHES



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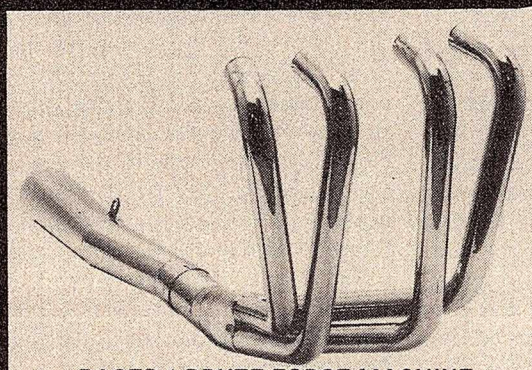
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way put us on the trail, chuffing along in fine fettle, right behind the buzzing "fifties." I cast one last look back from the brow of a low hill and was not surprised to see the gendarmes again charging the impound area; it was, on the other hand, rather startling to once more observe flames leaping about in the ranks of parked motor cycles before billows of smoke obscured everything.

We were not many miles into our first of the Six Day before a run of difficulties began. The trail certainly was not one I would have chosen for a tour of the southeast Belgian countryside, but my Browne seemed to find it agreeable until shortly after passing through the first water crossing. Forging the shallow but broad stream did not, as I had feared might happen, douse the engine's hot-tube lamp. What did occur was that the Browne's wooden wheels were soaked with water, and their spokes loosened as they dried, which further worsened the machine's already precarious stability. Little did I know, at the time, that Randle and my chum Hurdies, who'd rushed on ahead, were having the same kind of difficulty, and anyone watching the three of us swerving erratically along the narrow trail, spokes creaking and popping, would have been convinced that the Browne Wave had broken again.

Just when my own Browne Chaffinch had reached the point of being unmanageable, and no more than a half mile from the spot where it had in one of its swerves uprooted a small but stubborn tree, I came upon salvation of a most curious sort. In truth, I would have quit the game earlier except that the forest is a poor place to be stranded, and I was persuaded onward only because there appeared to be a clearing ahead where I might find rest and drink. But it was only a near-empty meadow with a small barn and one gawking peasant — or so I thought. Proceeding a bit nearer the peasant, I began to perceive there was something familiar about the fellow. Imagine my surprise to discover that the "peasant" was, in fact, Sir Thomas Browne dressed in shabby, borrowed coat and trousers, with a beret clapped on his head and a pitchfork gripped in one meaty hand. His other hand held the ubiquitous riding crop, which rather spoiled the disguise for anyone who looked closely — as did his distinctively British guardsman's moustache, which seemed to have lost some of its usual bristling glory to a fire somewhere. The straw Sir Thomas clenched in his teeth only served to call attention to the scorched, lopsided moustache, but I pretended to have been caught unaware, totally fooled by the disguise, when he

motioned with his riding crop to direct around behind the nearby barn.

Inside that barn I found one of my teammates, a fair approximation of the Browne, Ltd., workshops, a bubbling cauldron of linseed oil, and the Cruikshank clan. Before I could express my astonishment the Cruikshank's revolting cousin had plucked me out of the saddle and the two brothers promptly tore both loose wheels off my machine and tossed them into the hot oil before fitting a fresh set from a nearby stack of these items. This obviously was all entirely against the ISDT rules, and I realised that precisely the kind of thing I had feared had come to pass: the Cruikshanks, dirty devils that they were, had somehow managed to convince Sir Thomas to depart from the path of rectitude and join with them in a deliberate circumvention of the regulations. Of course I protested the flagrant breach of decency to the Great Man, and not because I wanted to escape riding my Browne any farther, which was the Cruikshanks' predictably filthy response to my protest. My words availed me nothing. Sir Thomas said that Rupert Randle was already gone, enjoying his fresh wheels, that my chum Hurdies would be gone in a trice, and that unless I was hot after Hurdies' heels he would be hot after mine.

Feeling somewhat put off by this encounter I pressed onward, half hoping that I would be excluded from the competition at the next checkpoint for being more than an hour behind the maximum of time allowed. I may even have dawdled a bit, but my tardiness mattered not at all for though the little 50cc machines that had been my companions at the start were far ahead, as was everyone else, a yawning official at the next check waved me in, looked furtively about, and stamped my card with a time that said, preposterously, I had been running right on the minute. Moreover, and this is the really astonishing thing, the official continued to stamp more times until my card, if it was to be believed, had me arriving and departing from every checkpoint precisely on schedule. I was struck dumb by this outrageous chicanery, and would otherwise have given the swine the sharp edge of my tongue before reporting him to the authorities. But while I was groping in vain for words that would express what I felt he gave me whispered instructions to take a side-trail just ahead, saying that it would lead me back on the course in the outskirts of Chaud Fondaine a few blocks from the last checkpoint and the impound area.

Sick at heart at this incontrovertable

evidence that someone had influenced a Six Days official, I could not think clearly: I took the shortcut to which I had been directed and soon found myself on a side-street only a few yards from the last bit of road outside the impound area. And there another surprise awaited me, as I saw the street ahead was blocked by the Browne Wave's lorry and in its shadow were my two fellow riders and their Browne Chaffinches. The motor cycles were in pieces, and begin reassembled by the Cruikshanks while their beastly cousin stood watch. My own Chaffinch was literally torn from my grasp and it, too, quickly began to lose some pieces and gain others. Its original wheels, reeking of linseed oil and with their spokes again tight, were bolted back in place and everything that showed any sign of wear was replaced. I watched, and discovered that some of the parts Randle and Maffick had been troubled by early in the day had been exchanged for others to do the day's work and, now repaired, were going back in place. Bits that had been utterly destroyed were being replaced outright, and Sir Thomas was clamping "official" seals on the illegal replacements. It was all absolutely amazing. In minutes all three Brownes were in as fine fettle as they had been that morning — which was not in itself surprising, as many of their components had spent most or all of the day resting in the back of the Wave's lorry.

With it so perfectly clear that Sir Thomas was too busy to hear any protests from me at that particular moment I stood silent while the Cruikshanks finished remanufacturing our mounts. Then, the work being completed, the Cruikshanks' unwholesome cousin stalked up to the cross-street, where the tiny fifties we'd started with that morning were beginning to rattle past, and motioned that we should get moving with them. Rupert Randle's Chaffinch had been 'given a fresh engine, so it started first and he was soon around the corner and headed for the impound enclosure. My friend Hurdies, looking very sour, was next away. His machine probably retained some defect for whilst he was an excellent rider the Browne veered sharply as Hurdies left and came quite near running down Sir Thomas.

Two of the Wave's riders were gone, and presumably would manage to cover the short distance left before the final checkpoint for the day without much trouble. I was not to arrive without a plethora of difficulties, which fact became painfully obvious moments after Hurdies shot from view around the corner. My chum Maffick was no more than barely

(Continued on page 81)



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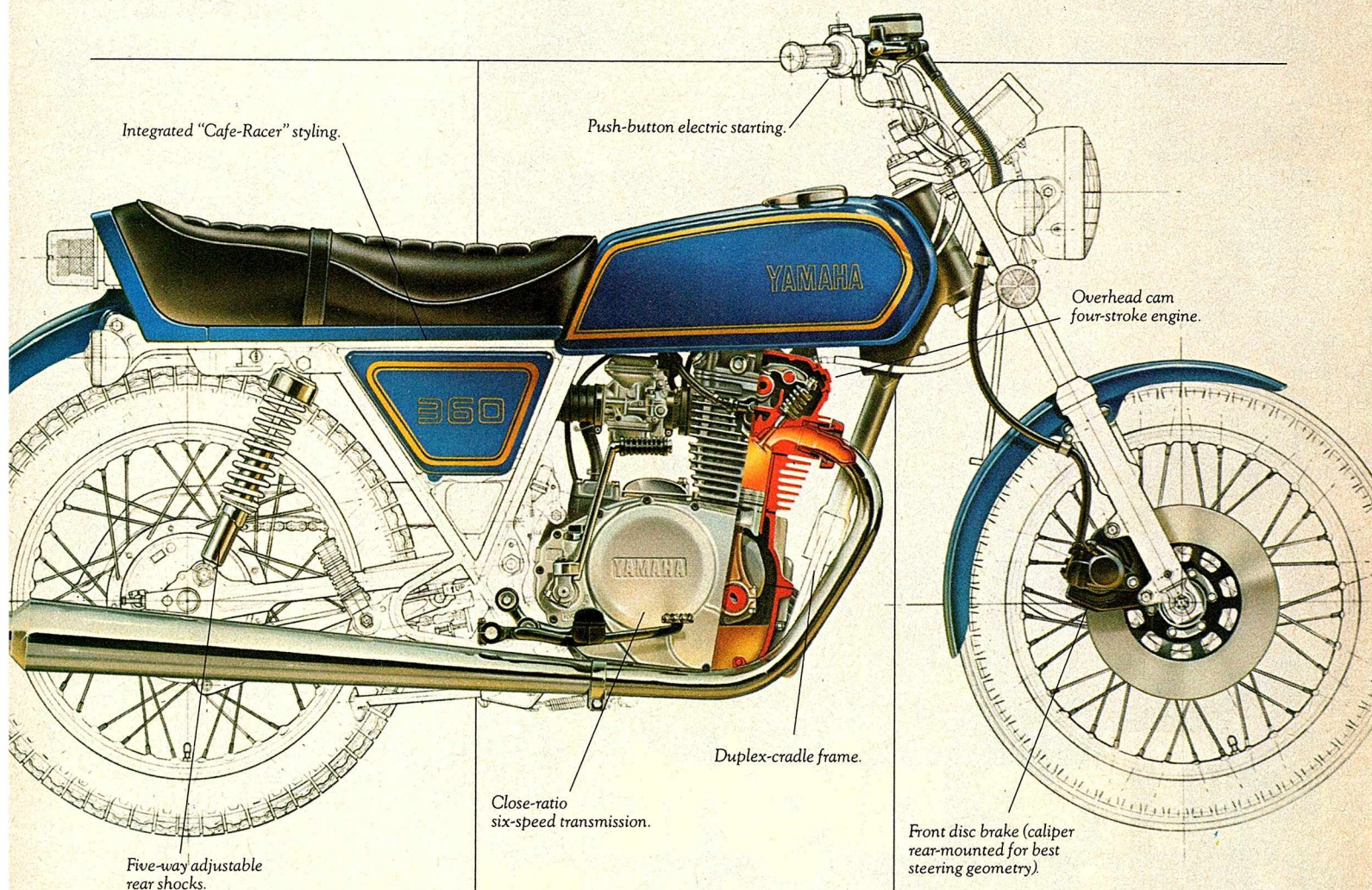
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gone when a trio of officials came into sight at the cross-street, peered suspiciously toward the Wave's lorry, and strolled toward us. The officials prudently gave the Cruikshanks' brutal cousin a wide berth, but continued in our direction and I was sure then the game was going to be called. Sir Thomas then proved he was made of sterner and more imaginative stuff than even I had thought. The Great Man leaped back, ripped open a door leading into the building at our right and — though I could not hear what he was saying over the blare of the Chaffinch's open exhaust — I divined that he intended for me to escape discovery by riding inside.

The interior of the building I entered was at first very dark and I was thinking of stopping to light the Browne's acetylene headlamp so as to see the stairs a jolting told me I was climbing when the motor cycle burst through another door and I found myself in a large kitchen. Even before my eyes adjusted to the bright light I began to feel that my abrupt entry there would not go unnoticed, as the Browne's driving rods had become entangled in some articles of kitchenware and were whipping up a terrible clatter. Ahead I saw a pair of swinging doors and, with cooks, scullery maids and waiters flinging themselves out of my path, I shot out of the kitchen and into a hotel dining room, where much the same kind of activity ensued, only with the participants being the hotel's otherwise dignified clientele. Somewhere in my erratic flight through that dining room the Browne's churning drive-rods gathered up a tablecloth and a small vase containing two roses, which did not add much to the clangor set up by the entangled kitchenware. I now think that the noise actually may have worked to my advantage, by sending advanced notice to those ahead, for the hotel's lobby had almost cleared of people by the time I passed through it on my ride to the front entryway, where I lurched down a short flight of steps and made my way into the street.

Upon regaining the out-of-doors I found myself rolling along in the wake of the very 50cc motor cycle I had followed out of Chaud Fontaine earlier in that day, and let him lead me the short distance back to the last checkpoint, the impound enclosure, and the end of my first ISDT day. Though my Browne was trailing assorted pots and skillets, a dustbin, and a monogrammed tablecloth these impedimenta did not attract quite the attention they perhaps deserved because the impound was — as I had left it that morning — the site of a perfect bedlam, with Sir Thomas at the very center of the

storm. The Great Man was once more engaged in heated debate with the Raggirone team's volatile manager, Marcello Malocchio, and their dispute was again sending out roiling waves of hostility to spread through those gathered in the impound enclosure — and threatening to spill out and infect even the crowds of onlookers. Gendarmes stalked around the edges of the throng like hungry cats and the Belgian ISDT officials quite obviously were at their wits' end trying to restore calm before the police moved in to do it for them. One band of minor officials had become so distraught they were wandering about carrying fire extinguishers and sniffing the air for the scent of smoke.

My feeling just then was that the last remnants of order shortly would be swept away and instinct told me to depart. But the reporter in me, and a glowering Cruikshank clan, urged me to stay. So I moved closer to the principal combatants in the arena, arriving at Sir Thomas' side precisely as the Belgian's chief official, flanked by two remarkably well-armed assistants, instructed the Great Man and Signor Malocchio to take their disputatious conversation elsewhere or suffer instant disqualification. He added, gratuitously I thought, that if there were any more fires Sir Thomas would be devoting his next twenty years to the repair of Belgium's roads.

All of us — Sir Thomas, Signor Malocchio and an aide whose name was I think Cornuto, and myself — then retired to the back room of a nearby public house to discuss differences and, I was to learn, negotiate a settlement. Signor Malocchio, a stocky man with a high, raspy voice who sounded as though he were talking with wads of cotton tucked in his cheeks, had his aide bring us glasses of *strega*, handed around a supply of unspeakable and unsmokable Italian cigars, and then with everyone at ease calmly accused Sir Thomas of chain-treachery. "You feelthy English peeg," he grated, "You start a beeg fire and almost burn up my motor cycles. Then you change lables on our drums of oil so we fill the engines with transmission grease and put the crankcase oil in weeth the gears. Besides that, my men see you dressed up like-a peasant, and feexing you motor cycles in a barn, and then you send them around the short way and they don't even follow the course."

These mostly unfounded charges filled me with indignation and I expected that Sir Thomas would demolish them before the man's eyes, but like the true gentleman he was the Great Man refused to honor such patently absurd accusations

with a reply. Instead, he brought forth his own list of far more substantial grievances against the Raggirone gang. "You ruddy wog," Sir Thomas hissed, "Your lot was busy enough this day. If my lads got a bit lost it was only because your henchmen were out moving the course markings around, and my man Randle went in over his head in the deepest part of a mud-hole because he thought a crowd of Belgians you'd bribed were waving him toward the shallows. And what about those obscene gestures your paid lackeys were making, trying to get my men too upset to do their jobs? Do you know they provoked the saintly Cruikshank brothers into retaliatory fisticuffs?"

There was more, accusation followed by counter-accusation, and much of it in such intemperate language that I expected Sir Thomas' riding crop to begin its slashing action at any moment. Imagine my surprise when, at length, the Great Man and his Italian opponent smiled across the table, stood to shake hands, and made ready to depart on the most amicable of terms. They had, Sir Thomas told me as we strolled back toward our hotel, come to an agreement: with the transgressions and evidence of same neatly in balance between the opposing sides, neither would make formal protest with the ISDT's organizers. I was not entirely content with this denouement, for it left unexplained the matter of how the Raggirone team, engines and transmissions ruined by the switch in oils and burned to cinders in that morning's blaze, should have risen like a phoenix to complete the day's running without — as I had learned to my astonishment — incurring even a single penalty mark. Sir Thomas explained the mystery by saying, "Goody, don't be such a bloody fool," but absolutely would not listen to my plea for release from the Wave. I had, after all, ridden nearly 30 miles that day and suffered discomfort, and feared for my health in the unthinkable five days that still lay ahead. I felt that I simply had to be spared that agony, and though my mind was racing in search of a way out of the travail, Sir Thomas had me tucked in for the night and a fresh pitcher of water set on my nightstand before I had come to any solution.

It probably was my outspoken reluctance that caused Sir Thomas to hold me responsible for the unfortunate occurrences of that very night, though he had himself seen me safely abed before the disaster struck. Somehow, and the court of inquiry was not able to come to agreement on the specifics, fire once again broke out in the impound enclosure.

(Continued on page 82)

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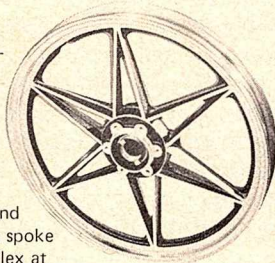
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sure. I offered the thought that it probably was due to some of the morning's debris still smoldering and igniting the fuel that often trickled down from Browne carburetors, but no-one seemed interested in hearing my explanation. In any event, the three Browne motor cycles were entirely consumed in the flames, which the organizers prevented from spreading but made only token efforts to extinguish, and I did not have to ride the rest of the Six Day after all.

Sir Thomas learned of the disaster that had befallen his Wave from the policemen, sent by the chief of the Belgian organizers, who came in the night to take him in charge. The fact that he was abed when the police arrived shortly after the fire began, and had a witness to testify to the fact, made hollow the organizers' threat to have him working in a Belgian road gang. But it was a tense time for many days, and I thought it best to quit what had become for me a most inhospitable Chaud Fontaine without waiting the many weeks it promised to be before Sir Thomas, the Cruikshanks, and the horrid cousin, could extricate themselves from the authorities' comfortable gaol. My Six Day was ended, and so ended the Browne Wave: tried, and found wanting not spirit but guile.

EDITORIAL Continued from page 4

full well that parachute sales will probably be uninfluenced by either success or failure and knowing full well that a tax deduction is not the same thing as getting your money back.

Far be it from me to suggest that in appreciation you should buy your next parachute from Ernie, or your next tire from Goodyear or Dunlop, or your next set of leathers from Bates or ABC/Bell, or your next quart of oil from Bel-Ray, or your next pair of shocks from Mulholland or S&W; far be it from me to suggest that your next smoke should be a Camel, your next spark plug a Champion, or that your next pair of denims carry the Levi's label. Just recognize that without sponsors all racing would be the poorer (and the slower), all racers the broker, and all facilities the more tumbled-down. Recognize too that for every tangible buck that accumulates in the wallet of a sponsor as a direct result of a satisfactory racing involvement, maybe a thousand or more have taken flight from the same vessel, without so much as a rearward glance or a fond adieu. And recognize that, beyond the trifling tax deduction and business rewards that have always been and will always be no more substantial than wisps of fog out of the corner of the eye, sponsors have nurtured racing because they love it—and by so doing have enthralled all of us.

—Cook Neilson
CYCLE

WINNING..... Continued from page 64
ond and relegated Roberts to third. The Kanemoto engine was making more power than other Kawasaki 750s, the handling of the new chassis had been dialed in, and Nixon was on the gas.

The confounding thing about Nixon is his lines—they seem to belong to him and no one else. Turn Two, Laguna Seca: Go-Fasters enter this corner on a classic sweeping line that begins at the outside edge of the pavement. Anybody can give you good reasons for this approach: wide arc, high-speed entry and exit, maximum possible throttle, etc. Baker and Roberts adhere to the classic line. Nixon does it by his own copybook. Enter from the outside, sometimes; enter a couple of feet from the outside at other times; and begin almost in the center of the road on other laps. And every time on every line, Nixon absolutely smoked through Two. Some things can't be explained; they just are.

Though Nixon was gone, Roberts remained a safe third, far ahead of the madding crowd, which was in the process of sorting itself out as the midway point of the first leg passed. Gene Romero had Randy Cleek, Yvon duHamel, Gary Scott, Skip Aksland and Steve McLaughlin grouped behind him. Yvon, having crashed on his 250 the day before, was not riding the Kawasaki 750 Fubar at full max. Given duHamel's record of bad luck at Laguna Seca, this was one race he wanted to finish.

The most impressive rider in the group was Gary Scott, privateer and National Number One, smooth and determined on his Boge-Mulholland TZ-750. Fans with long memories could recall Gary's brilliant performance on the old works Triumph Trident in 1971. At Laguna in 1975, Scott played shepherd to a crippled Harley-Davidson 500cc watercooled twin, finishing downfield. But 1976 looked much better for Scott. He marched his Yamaha past duHamel; then both Cleek and Scott got past Romero, and finally Scott put Cleek behind him for good.

Baker won handsomely, Nixon filled second, Roberts took third, Scott had fourth, Cleek settled for fifth, and Romero finished sixth.

In racing imitation is often the sincerest way to get competitive. During the break between legs, Roberts switched to a Dunlop KR111 in back, but left a Goodyear on front. The monoshock unit also received attention, in hopes of ending Roberts' arm-wrestling contest with his bike.

Like the 250 tires, the big K111 is a post-Daytona development from Dunlop. Basically it's very much like Dunlop's 1976 Daytona tire, but there have been changes in cord angles and improvement in com-

pounds. Regarding compounds, you might think that riders like Baker and Roberts would opt for the softer, stickier 554 compound. Wrong. They use the harder 418 compound because the OW-jet-setters work the tires so hard that they would consume the softer covers inside 60 miles of businesslike riding.

History repeated itself in the second leg. Baker hammered away, knocking the lap record—which he had set in the first stanza—down to 1 min. 10.6 secs on his fifth tour. His average speed on that lap was a sizzling 96.888 mph.

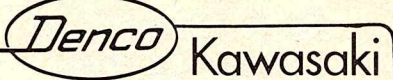
Roberts, locked into second, could not threaten Baker. KR's newfound grip kept him ahead of Nixon who charged along in third place. There was reason for Nixon's haste because the finishing order in the second leg assumed great importance. In case two riders had identical, but reversed, placings in the separate legs (3-2 versus 2-3) he who finished highest in the last leg would win the place in question (the 3-2 rider would win second overall).

Bad luck stuck to Roberts again. Shortly after the start, Roberts lost first gear, ending any hope—if he ever had one—of getting to Baker. An OW-31 can manage Laguna without first gear (used only once a lap at Nine), but "managing" won't win. And, any time a gearbox scrambles, there's always the blood-chilling prospect of a total lock-up with no chance of recovery unless you're really lucky.

With Nixon flying in third, Roberts' second place looked in jeopardy. Then suddenly, Nixon fell in Eight, a fast downhill righthander. The front end appeared to wash out and down tumbled Nixon, crumpling up the new Kawasaki and breaking the front mag wheel. Was it the Michelin front tire? Was there any connection between the Nixon's Loudon crash and the Laguna Seca fall? Nixon, his shoulder bandaged, later denied all. Nope, goin' too fast, he sighed. With that, Nixon's name dropped out of the overall standings where it counted, at the top. In the double-leg system, a 2-DNF works out to a DNF.

Far behind Roberts—who was safely installed in second—the Romero/Cleek/duHamel/McLaughlin/Aksland/Scott battle shaped up again. This time things worked out a little differently.

Gary Scott had wanted to get up with Romero and Cleek; long before he could, Gene and Randy had broken far clear of the group. Scott thought the front end of his bike felt a little peculiar, and his Yamaha wasn't handling as well as before. In eighth when he began his run, Scott's first company was McLaughlin and Aksland, who were disputing sixth place. Scott got around Aksland and then zeroed in on



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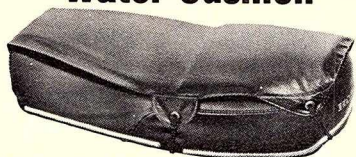


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McLaughlin who, after many laps, finally yielded. DuHamel succumbed next, so Scott pulled up to fifth, leaving the French-Canadian to McLaughlin, who pushed duHamel back to seventh; he in turn held Aksland to eighth. Scott's run stopped at fifth; Romero and Cleek, holding down third and fourth, were long gone.

Cleek, shadowing Romero in the second leg, put on a terrific drive at the finish. Randy, who had fitted a Dunlop rear slick during intermission, had already shaded Romero in the first leg. With one lap remaining, Cleek wedged under Romero in tight, slow number Nine. Gene had a lap to regain third, but couldn't. Cleek made it stick to the flag.

At the 200th kilometer Steve Baker was exactly where he began at Kilometer One: first. When the first- and second-leg results were factored together, the first five overall were Baker, Roberts, Cleek, Romero and Scott. That's statistically speaking. Cold figures can tell you Baker won both legs and set a new lap record. But he did much more. He literally won every mile.

Superbike Production racing continues to expand and contract simultaneously. The size of the starting fields have diminished since Daytona because many one-time participants, and even potential entrants, have been scared off or turned off

by the mega-buck front-runners. Although the Superbike field dwindled to fewer than 20 starters at Laguna Seca, the exotica index has risen sharply among the half-dozen leading contenders.

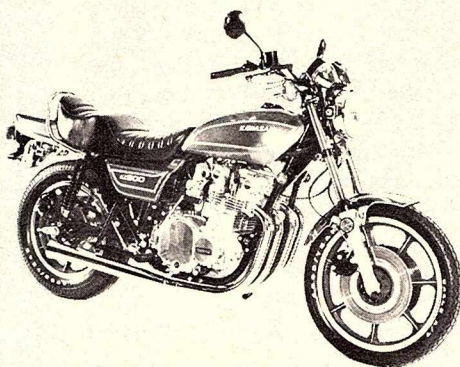
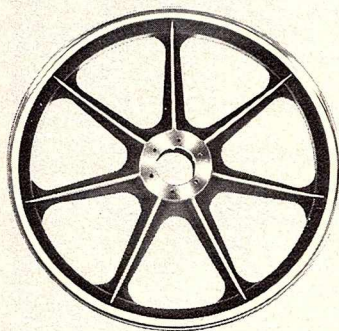
Every single one of these machines does far more than tread gently upon the spirit of the rules. With the AMA's tacit approval, these Super-hyper-bikes have—as a group—maimed and dismembered the entire rulebook. But remarkable tolerance prevails among the first-stringers themselves. In straight-faced honesty one pundit/tuner allowed that the real value of the AMA's pre-race technical inspection was to let you see the other machines and determine how far behind you were on your cheating. If it's any comfort, this shoddy morality has certainly made for entertaining racing.

BMW showed up full strength: Gary Fisher and Steve McLaughlin aboard monoshock twins, and Reg Pridmore astride a conventionally suspended Beemer. Pridmore had experimented with the monoshock set-up, but he wasn't satisfied with the handling his unit produced. The clocks verified his good judgment; he went two seconds a lap quicker on the standard racing suspension though, in Rego's descriptive phrase, the bike "jangled around a bit" in a couple of corners. All the Butler and Smith bikes had been switched over to Lockheed brake calipers for Laguna Seca, an unhappy reminder from Loudon. There the standard issue German calipers proved so marginal that any chance of a BMW victory disappeared in brake fade.

Loudon winner Mike Baldwin appeared with the Reno Leoni-tuned Moto Guzzi 850 LeMans. Front suspension problems plagued the Guzzi most of the weekend, and a front tire switch only intensified its horn dance. Despite all ministrations, the Guzzi persisted in shaking for Baldwin and making life difficult for Leoni. The LeMans was horsepower down on the other jets, so its ill-handling gave Baldwin an enormous handicap.

The kings of horsepower, if anyone ever had doubts, were the Yoshimura-Kawasaki 1000s. At Daytona the Yoshimura Z-1 had competitive power but lacked enough to overwhelm its adversaries. Since the official Yoshimura bikes gave Loudon a miss, Laguna Seca became their second AMA outing. Mike Parriott, riding the number-one bike, fell victim in practice to Laguna's downhill Corkscrew, a special danger to newcomers. The Corkscrew, which unloads the rear wheel and makes the backend very skatey, is simply slower than it looks. Some quick patchwork enabled the frazzled bike to make the heat-race grid

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with Parriot, abused and sore, in place.

The number-two bike was a quasi-Yoshimura entry (Yoshimura/Racecrafters International). Though powered by a Pops engine, the running chassis was developed by Pierre DesRoches and Tom Farrell; Southern California club racer Keith Code was in the saddle. After a long and sometimes frustrating year of labor, the frame builders licked the infamous Z-1 handling woes. Traditionally slicks make Z-1s go crazy by really loading the chassis, and Laguna's bumpy, high-speed corners cause big Kawasakis to dance in 100-mph fits. But not the Yoshimura bikes. Code, using a treaded Michelin in front and a slick in back, reported that his bike handled better than a much-modified Honda CB-550 he'd been riding. Parriot's bike was never quite so good—especially after its Corkscrew misadventure.

At the start of the heat race Cook Neilson made a fast getaway on his 883cc Desmo Ducati, and five laps later dashed over the finish line to earn the pole position for the main event. Reg Pridmore nipped at the Ducati on the run to the flag, and he was followed home by his BMW team mates and Keith Code.

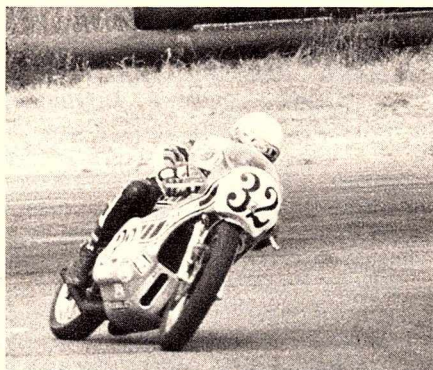
On race day the BMWs revealed their full potential. And so did Keith Code. He launched the Yoshimura rocket right at the start, and his blistering opener put him into the lead early on. Gary Fisher—never known to hang about himself—eventually blew past Code and began assembling quite a lead on the field. Meanwhile the Italian challenge faded. The Moto Guzzi engine went sour, and Mike Baldwin pulled it in. The Ducati five-speed gearbox reverted to a four-speed unit when the fourth became an in-now/out-again proposition, and Desmo was retired before its gearbox could go off like a grenade.

McLaughlin's exit on his BMW had more drama. He got out of shape with his monoshock (yes, it jangled a bit too) in Eight; he fought the bike halfway to Nine whereupon the BMW finally rejected and ejected McLaughlin when Steve applied the front brake with both hands and a foot. Fortunately Steve was not seriously injured, but the bike did a windscreen/tank/seat planing maneuver in the dirt.

Meanwhile Rego the Fox continued to ride by his own plan: hold back in fourth or fifth during the opening stages of the 20-lapper; pick up the tempo around midway; and jump up the leader's tailpipes in the final five laps. Understand that Pridmore has a personal acquaintance with BMW interiors, and it's no accident that he has a 100 per cent finishing record in this year's Superbike series. His bike likes him. He doesn't thrash the parts and they don't break on him.

Knowledge is Pridmore's constant ally. The track was slippery, so he wanted his Michelin slick thoroughly warmed up before doing any hard motoring. (He had gotten into a couple of bad slides—once in practice, another in the heat race at the Corkscrew.) The BMW engine also had to be warmed with care. The BMWs run very high oil pressures; hopping on the gas hard with lukewarm oil runs the risk of blowing pinholes in the oil cooler. Furthermore, BMWs carry only two quarts of oil, and they can't afford to lose much. All this Reggie knew, and more. He suspected that his BMW was a bit stronger than Fisher's model, which had suffered (electronic) ignition maladies in the heat race.

The main event followed Pridmore's schedule. He broke away from Code and began reeling in Fisher, the race leader. With five laps to go, the interval had narrowed to three seconds, and Rego felt confident and in control. But the Battle of the Beemers was never quite joined.



Fisher pulled his oil-bathed twin into the pit lane with a fracture in the cooler, and Pridmore motored into the lead. Taking a quick look around, Fisher and Company realized how far behind Code was. Gary went back out, trying to salvage second with a lot of grit and no oil pressure. It didn't work; the BMW rattled to a stop.

So Pridmore scooted under the finishing flag, having ridden a fast and cagey race. Some distance back, Keith Code sailed home an impressive second. A well-worn Mike Parriot soldiered the tattered number-one Yoshimura bike into third, making it a Yoshimura two-for-three in the winner's circle. Dick Fuller bagged fourth on an old drum-braked RD-350, and humiliated his fair share of the big-inch Superbikes.

Once upon a time, Novice road racing seemed to be the AMA's version of Rollerball. Novices littered the asphalt with metal fragments, fiberglass chips and warm bodies, and then slicked down the track and debris with generous amounts of gas, oil and water. While there's still carnage-making among the novice backmarkers, up front you'll find solid talent. That's

especially true since it has been possible under AMA rules to be an Expert dirt tracker and a Novice road racer. It's no great secret that a talented dirt racer can often get on a road racing bike and begin going very fast, very quickly.

Case in point is eighteen-year-old Scott Pearson who to date has an unblemished AMA record on pavement. Pearson won his heat race and the final at Loudon, and then repeated that performance at Laguna Seca. His experience piloting an XR-750 Harley-Davidson flattracker has apparently served him well, because his TZ-250 connection has been nothing but sensational.

Pearson lives in that California incubator for fast racers and quick machines, San Jose—where everyone knows nearly everyone else, and they all know Erv Kanemoto. Keith Bontrager, who has built and tuned Pearson's Yamahas, runs his own speciality shop in San Jose; his hero—you guessed it—is Erv Kanemoto. Bontrager is young but he's no beginner. He built the Kawasaki S3 which Tip McPartland rode in the AMA Lightweight Production series in 1975; it finished second at Laguna and won Ontario.

Pearson began pavement racing early in 1976. Though he was "a little wild" and got "pretty sideways" at times in club races, first on a borrowed S3 and then on a loaner TZ-Yamaha, Pearson was phenomenally effective: he won. Armed with a new bike—courtesy of a new sponsor—at Laguna, Pearson was ready but late. Post-entered, he sat at the back of the grid in his heat. Not for long. In the first lap he blasted past 22 riders, and four tours later he won the heat. Pearson, whose friend Mike Devlin had coached him a bit during practice, first digested the advice and then devoured his competition.

No one could hang with Pearson. Klinzmann was the only rider who got a shot at Scott, but Harry's gearbox selector kept jamming in random fashion, and at least once Harry thought he'd have to park it. Then the gearbox shifted again, and Harry was back in business for second, with Randy Mamola slotted into third.

Though a crash stopped the race and caused a restart in staggered formation, Pearson never bobbled. The longer he went, the more he learned and the faster he could go. Pearson is beyond his "pretty sideways" phase, racing on gut instinct. The natural touch takes a racer only so far. At some point he must be able to think, to reason, to learn—and then do it. Bontrager has already seen Scott Pearson make that transition. It's called learning how to win.

And, like Baker, Scott Pearson won every mile.

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TIRES/RIMS.....Continued from page 44

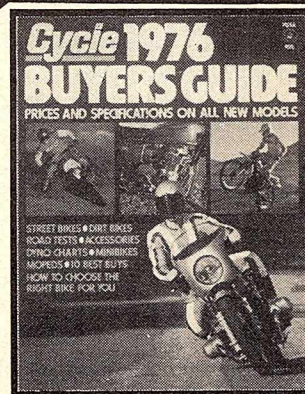
the tire is rated for speeds up to 130 mph; an "S" tire is safe only to 112 mph. And Michelin has "V" series tires for speeds above 130 mph.

In both tire and rim sizes there's evidence that the metric-system nations are not altogether happy with the inch-based standard. Some tire catalogues give tire section dimensions in millimeters (the 5.10/80H-18 Continental actually is a 130mm/80H-18) and rim manufacturers like Daido use part numbers like "215" or "250" which are of course those irrational inch sizes with the decimal point and any reference to inches excised.

Many tires, and especially those in sizes suitable for Superbikes, will be marked to indicate what their direction of rotation should be after mounting... usually with an arrow. This practice is by no means universal, but should be because it is possible to damage a new tire by applying a heavy thrust load on the tread if the thrust is in the wrong direction. When tires are made, the rubber that forms the tread is wrapped around the carcass as a strip, with its ends beveled and overlapped. This joint bonds together pretty well when the tire is heated in the mold, well enough so you can't see the place where the tread-strip ends come together, but it is potentially a weak spot. To be safe, you mount the tire so the heaviest contact-patch thrust, from braking at the front wheel and drive torque at the rear, tends to smooth down the tread joint's overlapped end rather than trying to pry it up. We've never seen a tire lose its tread as a result of having been mounted backward; we have seen the seam open slightly, which looks like a knife cut across the tread—one deep enough to make a thoughtful rider very thoughtful.

The final thing you have to know is that tires and rims only very loosely conform to the nominal specifications we have provided here. So before you decide upon any radical departure from standard tires and rims on your own motorcycle you should be prepared to do some research. New rims? You can be sure that if you ask for a 2.50-18 or 2.75-18 rim, that's what you'll get in terms of diameter and between-flanges rim width. But even if you specify the right number of spokes you can't be sure the holes in a predrilled rim are going to align properly with the angles of the spokes sprouting from your bike's hub. And oversize tires? You'll want some very specific information about actual width and overall diameter—which will let you determine if the tire you think you want will clear your bike's chain and fit into the confines of the swing arm. For that kind of detail you'll have to write to the various tire and rim suppliers. We've provided a list of major suppliers here; the rest is, in the vernacular of old country carpenters, being sure you measure twice so you only have to saw once. ©

Your first buy before you buy anything else



1976 CYCLE BUYERS GUIDE

Here's the one publication that turns you on to everything and anything you'll want to know about bikes and accessories before you visit the dealer. It can help you decide what to look for and what's best for you at a price you can afford.

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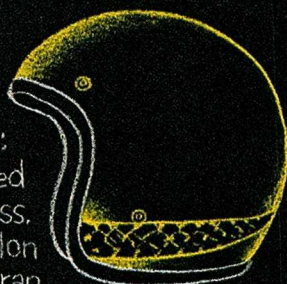
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Cool, comfortable
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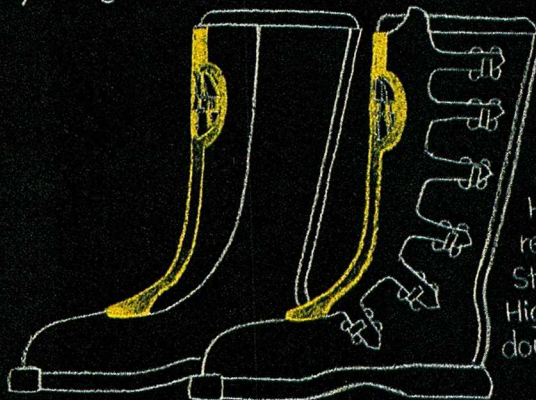
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removable.
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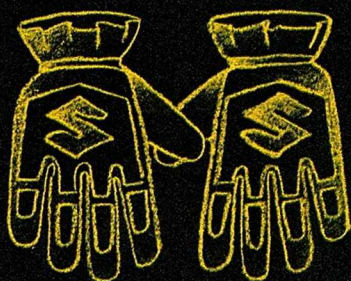
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FORGET YOUR TROUBLES. GET ON SUZUKI.



CIRCLE NO. 73 ON READER SERVICE PAGE.

INTRODUCING THE NUMBER ONE



The Harley-Davidson Electra Glide.

It's like word association. Somebody says "touring" and the answer comes back "Electra Glide".

It doesn't surprise us. The Electra Glide is renowned as one of the most comfortable touring bikes money can buy, as well as one of the most durable. A luxury liner that can take you from New York to California in regal style.

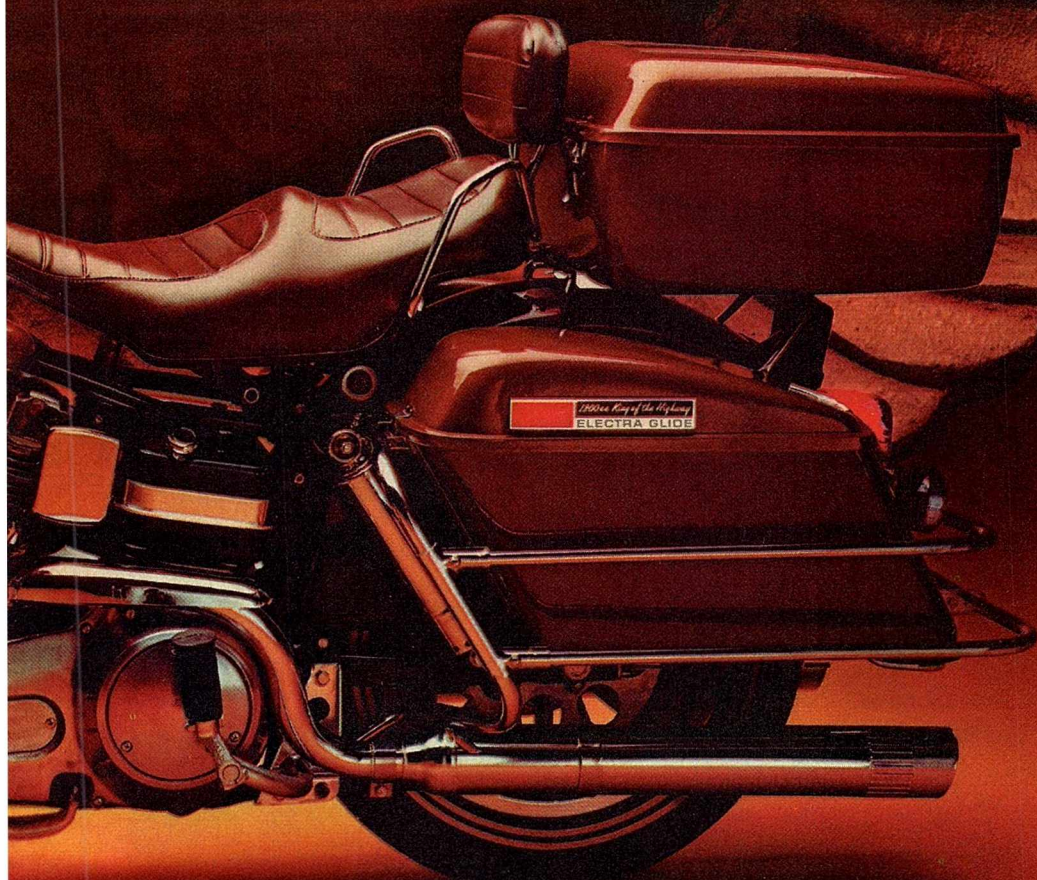
We know what our riders need and want in a touring cycle. So, we test Electra Glides like our riders use them—fully equipped with factory accessories, including fairings, saddle bags and Tour-Pak®.

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They're so tough you'll still see Glides from the 50's passing by on the highway.

TOURING BIKE IN AMERICA. AGAIN.



And for 1977, the Electra Glide will be more plush, more comfortable than ever before.

We've developed a new, double bucket "Comfort Flex" seat. 4 inches longer and 3 inches lower than last year's, it's the only touring seat in the industry that isn't mounted rigidly to the frame. Instead, there's an exclusive spring seat with a friction shock absorber built in to dampen the rebound of the spring. Just like on a luxury automobile.

There are also running boards instead of foot

pegs, and extra-wide tires—the widest production touring tires in the motorcycle business.

And this year, there's even a limited edition. The Classic.

A new, Vivid Brown color combination—a treat for the eyes, that you can order special from your Harley-Davidson dealer. If you're into touring, pay him a visit, now. Experience the Electra Glide yourself. Then you'll be like the rest of our owners.

You won't care who's number two.

AMF
Harley-Davidson

**Until you've been on a Harley-Davidson,
you haven't been on a motorcycle.**



We believe in safety first. Before you start out, light your lights, put on your helmet and watch out for the other guy. Follow owner's manual for maintenance.

CIRCLE NO. 79 ON READER SERVICE PAGE.

Review

The Motorcycle Experience Lee Stanley Films, Inc.

● MOTORCYCLE SAFETY is a boring subject because everybody is a safety expert. The motorcyclist who has never had an accident knows all about safety because his record is perfect: no scars, no scratches. And the guy who has flopped his motorcycle(s) a few times is an expert too, by virtue of his crashing experience. You don't even have to be a motorcyclist to be an expert on two-wheeled safety. Most any mother can tell you about motorcycles: *a priori* dangerous, one and all.

Films which deal with motor vehicle safety are, for the most part, also boring. These motion pictures are invariably presented with smiling and spotless models, proscriptive rules (don't do this, or that, or that), and grinding dullness (safety steps one, two, three). This bland oatmeal is seasoned with appropriate blood-and-guts horror photography, the kind the highway patrol is fond of showing in their safety seminars designed for traffic violators.

It's no wonder that most safety films lack any real credibility, and credibility is exactly what a motorcycle-safety film needs—especially when it's aimed at safety experts, crashless virgins and crumpled veterans alike.

Featuring Reg Pridmore as host and narrator, "The Motorcycle Experience" has credibility. The opening race sequences with Rego aboard his BMW production bike demonstrate the narrator's expertise, and seeing is believing.

Pridmore is both articulate and convincing. This isn't one of those films in which some racing star stumbles through a monosyllabic script with as much conviction and fluidity as a fifth-grader reciting the Gettysburg Address. In an intelligent, matter-of-fact style, Pridmore states his view that there are greater hazards on the street than on the track—and that you can be squashed to juice unless you ride defensively.

On road or track, defense begins before you get on your motorcycle by checking equipment and dressing properly. These points are not belabored; there's neither an ABCD-ad nauseam checklist, nor a sermon on helmet safety. You do see the aftermath of Tip McPartland's 1975 crash at Ontario (California) Raceway, with Tip walking away from the accident, and that should be evidence enough to dress properly, from the head down.

Defense is also concentration. Rego suggests using the same procedure he employs to avoid race-track wobblers: identify the problem driver; predict what might happen; decide in advance what

you're going to do; and then, as necessity dictates, execute your move. The film illustrates—in standard close-call format—the hazards of daydreaming and the benefits of attentiveness. "The Motorcycle Experience" gives tips and pointers along the way—two-up riding, intersections, blind spots, etc. Track and street riding have a lot in common; but, Reg hastens to add, speed isn't one of them.

There's enough racing footage to make it abundantly clear how much faster track racing is than street riding. Watching Rego cut through traffic with the force of a hatchet murderer and the precision of a brain surgeon is the best part of the film.

We liked it so much we backed the film up and ran it through again. The staff concluded that the film—run forwards—was exciting, but viewing the racing clips in reverse is actually more entertaining.

Thankfully this isn't a movie of motorcycle basics. Rego doesn't point to the brake lever and ignition switch, and explain what they do and how to operate them. Motorcycle riders won't be insulted by the film because basic common sense never comes off as self-evident and dumb.

The 20-minute film which rents for \$25 is available through Film Forum, P.O. Box 230B, Mission Viejo, California 92675. ●



1977 Moto Guzzi 850T/3FB

Moto Guzzi. Regarded by many as first in touring roadability, comfort and performance.

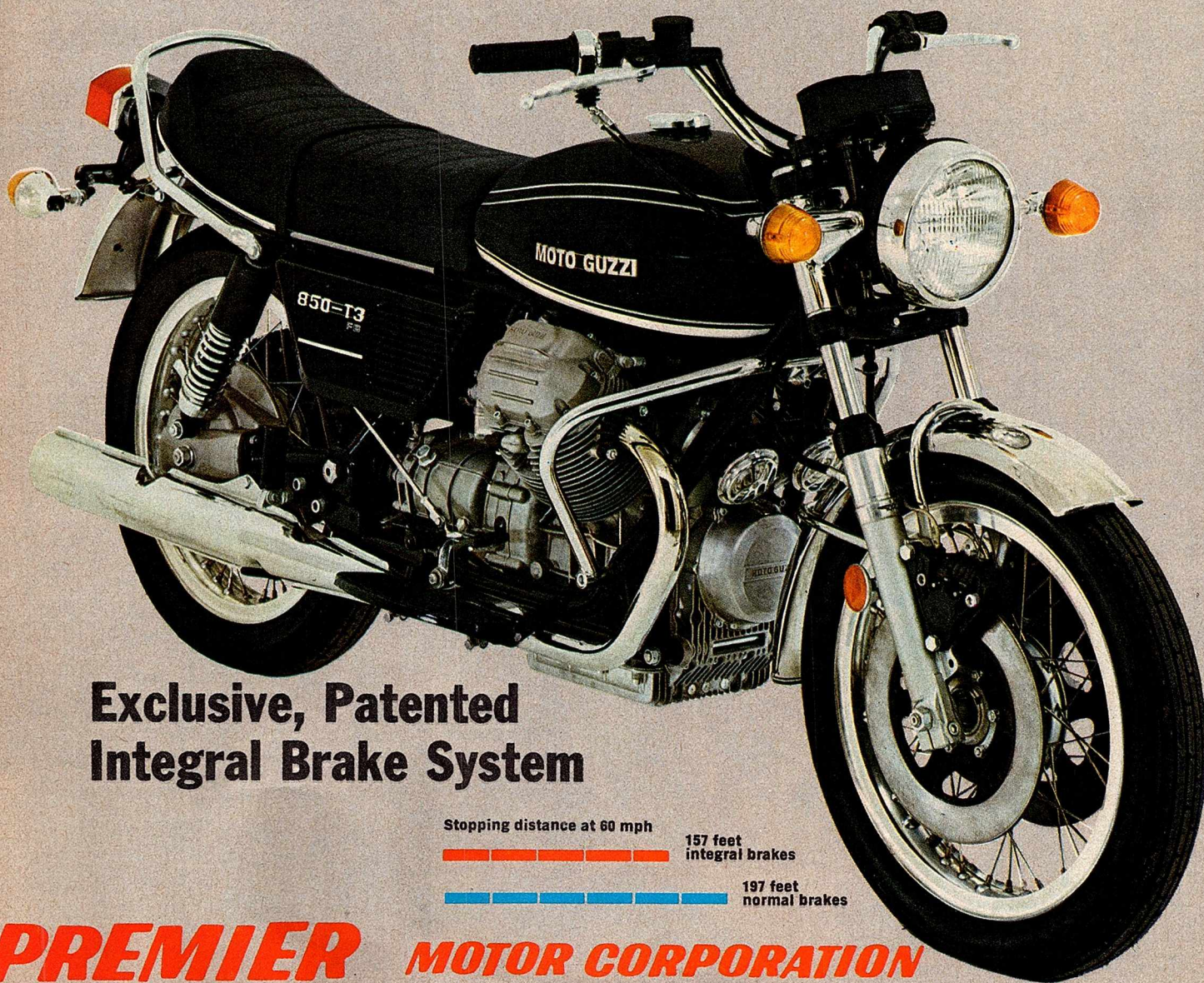
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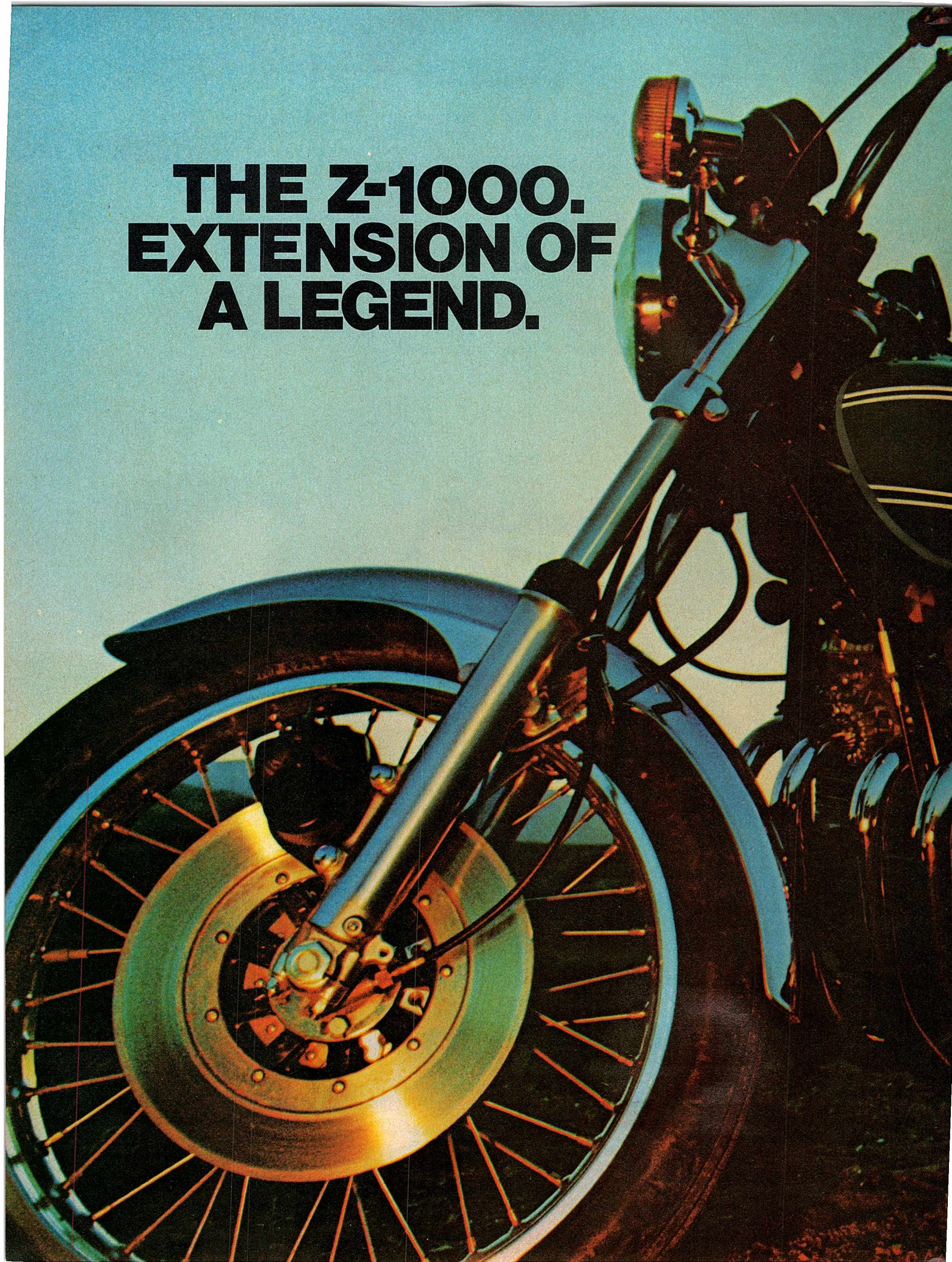
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CIRCLE NO. 21 ON READER SERVICE PAGE.

**THE Z-1000.
EXTENSION OF
A LEGEND.**



A man and a woman are looking at a Kawasaki Z1000 motorcycle. The man is on the left, looking at the bike. The woman is on the right, looking at the man. The motorcycle is in the foreground, with the 'KAWASAKI' logo visible on the fuel tank and 'KZ1000' on the side panel. The background is a sunset or sunrise over a dark landscape.

We know why you ride. You told us. You rode the King into a legend. Proved the performance of Z1 over thousands and thousands of miles. Now there is a new King...Z-1000. We built it to be the best there is. The essence of motion. The mechanical reality of why you ride. 1015cc of cafe racer, 1/4-miler, police bike or touring machine. A precision DOHC/4. More torque. A rear disc brake. And a light, lusty 4-into-2. Z-1000 is fast, stable and maneuverable. Z-1000 is King. The legend extended to rule the infinite road.

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PIPELINE Continued from page 18
promise is a four-stroke twin. Ruling out Vee-twins (and charioteers do) leaves a very limited selection of types and makes. Flat twins? The 980 BMW is certainly fast and torquey, and probably the fastest over firm ground. The German twins have shaft drive which presents incurable (to date) handling and reliability problems. Flat twins equip the Russians, when and if they made Western forays. Known as Urals, the Peoples' Tractors conquer mud like hippos, but otherwise performance is unremarkable.

The effective choice is restricted to vertical twins, grouped as production, limited production and obsolete: Yamaha, Weslake, Norton. Considered strictly as sidecar-cross performers, no one engine offers obvious advantages over the other two. Reliability is a toss-up. It's modernity versus tradition without a clear winner in sight. The modern Yamaha has engineering sophistication and unit construction. And Yamaha parts are easily had—at a price. The traditional, super-strong Weslake is cruel to proprietary gearboxes, so \$250 for preventive maintenance before every third meeting must be taken. Spares for Weslakes are expensive and hard to come by, especially since Weslake stopped making vertical twins and sold off the manufacturing rights (to one Dave Nourish of Langham in Leicestershire). Parts may be more free

flowing as a result; equally possible, small-batch engine production may become no-batch. The venerable Norton Commando engines are employed in both 750 and 830cc forms, and the word is that older 750s are superior. Nortons ride supreme numerically, suggesting that ancient English components survive in quantity. Surprisingly they do; the stuff not available through normal trade/retail outlets gets manufactured outside.

In sidecar-cross suspension there is an orthodoxy. Front forks are uniformly leading-link of massive proportions, and the swinging arm/twin-shock arrangement prevails at the rear. Individuality, such as it is, finds expression in the makes and positions of damper units, with laydowns gaining ground.

Of the specialist frame/chassis constructors, British Wasp controls over 50 per cent of the market, in competition with French SPP and Swiss EML. All three sell conventional tubular products, similar in conception but varying in detail. Different again are Alf Hagon's alloy-plated wonders. Apart from the tubular passenger exercise bars, the Hagons are constructed entirely from aluminum-alloy sheets that are welded and bolted together. Hagon furnished Van Heugten with the 1975 championship winning rig. Which only goes to prove how individual opinion has a major bearing on this minority sport of sidecar-cross. —Jim Greening

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BITS Continued from page 22

Flat-out at 85: The National Highway Traffic Safety Administration has been at it again. They have proposed a new federal standard which would require motor vehicles, including motorcycles, to be equipped with speedometers and odometers. The speed scale would be limited to 85 mph, or 137 kph. Odometers would have to be tamperproof, and accurate within four percent above or below the actual distance traveled. The purpose? "To provide each motor vehicle with the instruments needed to maintain safe driving speeds and to maintain proper maintenance schedules."

Just think about it: from a standing start, a good Z-1 could run out of speedometer inside eight seconds.

Roadtesting at 33,000: A recent round-the-world trip, beginning in beautiful downtown Wendover, Utah and extending to Tokyo and London, neither of which are in Utah, gave the Editor a chance to roadtest some airlines, specifically JAL, TWA and BOAC. In a nose-to-nose, tail-to-rudder comparo, JAL won by an ocean. Service and food aboard the Japanese airline were absolutely the best; TWA trailed in second; and BOAC finished a distant third, thanks to the world's most haughty, snarky cabin steward. All the airlines had the fundamen-

tals correct—the planes went up, stayed up, and landed just as they were supposed to. When it comes to basic up-and-down business with the big airbuses, we'll settle for a dull ride everytime.

Vote: If all motorcyclists could be united politically, our numbers would total 7-8 million at minimum. We would be a political force with more votes than the Teamsters, the UAW and perhaps even the Republican Party. With those numbers Congress would probably open the White House lawn for a motocross. Since our visibility is so important, *Cycle* is joining with the American Motorcycle Association in urging that you vote November 2nd and ride your bike to the polls for the sake of visibility.

English As She Is Spoken, II: Spotted in the Suzuki RG500 Maintenance Manual (the RG is the bike that has won this year's 500cc World Championship, B. Sheene up): "With the machine serviced into its top-knotch condition according to the results of the foregoing checks, and with the engine accurately tuned up, it is your maneuvering skill that can win laurels upon your head in the great race." Translation: If you've got a decent-running RG and you get your doors blown off, don't blame the bike. Next time, get out there and maneuver. ●



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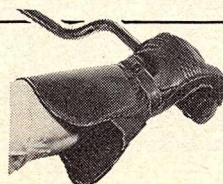


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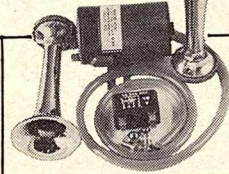
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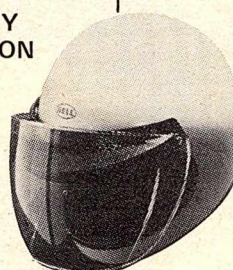
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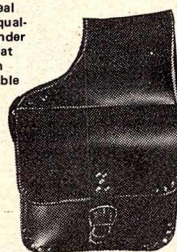
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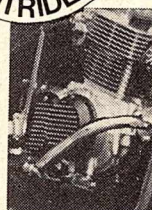
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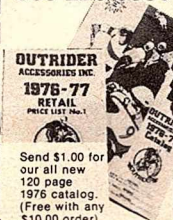
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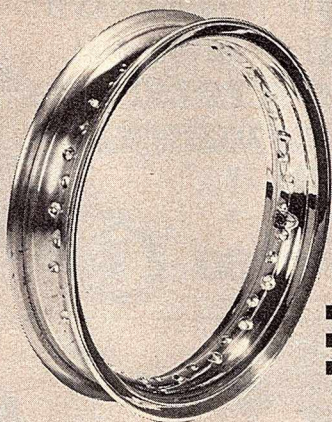
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Road Test Index

1975

BMW R90/6	August
R75/5	November
CZ 250 MX GP	June
Can-Am 250 GP	July
175 MX2	November
H-D FLH-1200	August
Honda CB400F SS	March
CB500T	February
CB750F	May
GL-1000	April, August
XL-125K1	April
MR175	July
CB550F	September
CR250M	October
Husqvarna 175 Cross Country	August
Kawasaki KS-125 Enduro	February
903 Z1-B	January, August
KD-175	October
KH400	December
MV Agusta 750S-America	May
Montesa V75 Enduro 250	March
Moto Guzzi 850T	August
Norton 850 Interstate	August
Penton Mint 400 Enduro	May
Suzuki RE-5 Rotary	January, August
GT-750M	May, August
GT-250M	July
GT380M	September
RM125	September
RM250A	December
RM370A	December
Yamaha YZ-C 125 Monocross	March
RD-125B	April
RD200B	June
MX 400B	June
XS500B	July
RS 100C	November

1976

BMW R90/S	January
Hercules GS175	September
Honda CB-125 S3	February
XL350	February
MR250	April
CB-750A	May
CB550F	August
CB500T	August
CR125M	July
Kawasaki KZ900 LTD	April
KH400	August
Kawasaki KZ650	November
Laverda 1000	March
Maico MC400/5	January
Montesa 360 VA MX	July
Moto Guzzi 1000	March
Penton 175 Enduro	January
250 MC 5	June
Rokon RT-340 II	June
Suzuki GT500	April
GT185	June
GT380	August
GT550	August
RM125A	July
GS750	September
Yamaha YZ400C	March
RD400C	April, August
XS500C	August
XT500 Enduro	May
YZ125X	July
IT400 Enduro	October

LETTERS Continued from page 8
puter, or a race bench, or a billiard table track. You find them *at speed* at Westwood, or Loudon, Kent, Laguna Seca, Riverside, etc. Most of these tracks are only available at club races, unless you spend a rather ridiculous amount of money.

Baker is the fastest man on a roadracer right now because, in addition to tremendous talent, he does *all* his homework.

Walt Garnett
Riverside, California

SUZUKI GS750

Bravo! On the Suzuki GS750 report. Having heard about the 4-stroke, I've been waiting with baited breath for a test.

But you have made an error that must be pointed out—the GS750 is not Suzuki's first 4-stroke motorcycle.

Being knowledgeable about internal combustion engines, you know that the basic 4-stroke engine goes "suck-squeeze-bang-whoosh" each cycle, while a 2-stroke breathes life by going "bang-whoosh". At close inspection, you'll see that the rotary engine of the RE-5 is a real, honest to goodness 4 cycle engine, "suck-squeeze-bang-whoosh"ing its way into the hearts of millions (well, maybe thousands).

I'll grant you that the Suzuki whiz-bang is not your run of the mill engine so in that respect, the GS750 is a Suzuki first—a reciprocating 4-stroke engine first.

Chuck Fullgraf
Cananadaigua, New York

SUZUKAWASAKI

I take Cycle magazine and like it very much. In the September 1976 issue I read about the report on the new GS 750 Suzuki and it kind of got to me to think of all the smart engineers they have, or are supposed to have, and they have to copy the Kawasaki 900 Z1 so much that it isn't really a Suzuki design at all. It is a Z1 engine just about all the way through. Oh, there are some little differences, but the whole basic design and parts are all Kawasaki-designed. Don't they have any kind of patents over in Japan? If anyone would copy anything that much here in the United States there would be a big law suit without a doubt.

Glen E. Turnbull
Flint, Michigan

MODERN

My Lord in heaven! Four years of development, and Suzuki has presented us with another superbike to please the drag racers and curve straighteners, and for only \$2200. I can hear them now: baffles out, and custom shocks, and "Mommy, look at me! I'm Gary Nixon!"

If the new GS Suzuki 750 is so "modern", (Cycle, Sept. p. 36) why does it still have the same foam-covered tombstone that Japanese bikes have sported all these years, instead of a real seat? Why

does it have four times as many carburetors as my 124 Fiat Spyder? Why can't it cross a railroad track or expansion seam without jolting me and all the gear I'm carrying?

In short, how come the quarter-mile tire-burn people get 60 horsepower, over-size chain, racing cam, and needle swingarm bearings as *standard equipment*, but if I want to go on the road with it, I have to pay extra—and plenty—for a seat, bars, and gas mileage that won't become a source of sharp pains in a day or two?

Don't they see all those big Fours in Daytona every March? Don't they go out on the interstates and look? Don't they talk to their dealers at all? The big superbikes rule the highway. People buy those big bikes to tour on! There were thousands of them out there this summer!

So how come the manufacturers cater to the fantasies of the sixteen-year-olds, who can't even afford a can of chain lube?

Dale Peterka
Cincinnati, Ohio

SECOND-STRONGEST

I just finished reading your test of the new Suzuki GS750 and was surprised at your statement that its 60.17 hp @ 8500 rpm is "the second-highest production motorcycle figure we have ever seen", second only to a Z-1. Being the original owner of a '72 Kawasaki 750, I checked a few past issues and found that in Dec. '72 you dyno-tested one at 64.5 hp @ 6555 rpm. It's been said that figures don't lie, and, in this case, I hope not.

Greg Sharp
no address

Our apologies. The figures didn't lie. We did.—ed.

MORE ENEMIES

After reading your Editorial on "Enemies" I felt compelled to add my two cents worth on the subject.

Stinging insects: put their yellow jacketed behinds down your shirt, in your cigarette pocket, under your macho leather watchband (actually happened) and chomp away on your hide as you try to decide how to kill the devil using no hands at sixty miles an hour.

Country roads department: believes covering a road with tar and spreading loose gravel over it (tar and chip) is the latest advance in road resurfacing technology. Also believes cyclists enjoy riding on marbles. This same misguided group thinks that cyclists aspire to perform on the high wire, so they build rural bridges that resemble railroad tracks, complete with just two planks on which we can practice our act.

Wildlife: the white tail deer bounds playfully through the wild, gracefully leaping seven feet into the air, and landing his Bambi ass on the road a yard in front of your headlight. And birds; when they

aren't making strafing runs on your paint they're dive bombing your face shield. And dogs (wild as far as me and my bike are concerned) that think Shelby-Dowd makes fancy fireplugs.

"Cute" motorists: he causes his vehicle to backfire when you're alongside, spits tobacco, throws cigarette butts and other trash out his window when you're behind him, and tries to read the laundry instructions on your shirt when you're in front of him. Easily identified by a vertical yellow stripe up the back when his car has to stop for a red light and you're beside him.

Insurance companies: charge rates equal to the price of a new bike every two years because they can't possibly foresee the survival of any cyclists in a battle in which they are so greatly outnumbered by "the enemy".

R. Philip Gaver
Hagerstown, Maryland

DREAD SCOTT

In your August Editorial you state, "After the season was over Scott made it known that he should henceforth be paid what Roberts was paid—an amount that exceeded the gross national product of Canada." I feel compelled to congratulate you on the cleverness with which you manage to belittle Canada at least once an issue.

However, this latest installment in your series has provoked me enough to cast this curse that might once have been uttered by bermbusting Kobus of Campbellford. "May your lifeline supply of Can-Ams be severed so that you will be doomed to a fate worse than death—riding a Harley-Davidson till death do you part." And since you mentioned gross national products, I might add that there is no national product more gross than the all-American H-D.

Dave Parr
Scarborough, Canada

LAST WHISTLE STOP

Upon reading the small "Bit" in your August issue about Russ Collins' dismount at 170 m.p.h., I felt bad. I mean, *Bad* bad. And this was because Mr. Collins is one of my heroes and (although it is almost unnecessary to say) one of the premier pioneers in the "new" sport of motorcycle drag racing.

But what was almost as bad was reading the last line: "The big triple was a complete write off." It was hard to believe that the "Atcheson, Topeka, and the Santa Fe" had made its last whistle stop. It was a machine that almost everyone who rode a motorcycle knew of, and a machine many of us took great pride in.

Gary Edmonds
no address

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16	17	18	19	20
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WORD COUNT: 15 WORD MINIMUM. Include name and address. Name of city (Des Moines) or of state (New York) counts as one word each. Zip Code numbers not counted. (Publisher reserves right to omit Zip Code if space does not permit.) Count each abbreviation, initial, single figure or group of figures or letters as a word. Symbols such as 35mm, COD, P.O., AC, etc., count as one word. Hyphenated words count as two words. Telephone numbers count as one word.

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RECORD RATERS WANTED! Anyone qualifies. We ship you nationally released LP's to rate. We pay postage and handling. You pay nothing for LP's. All you pay is small membership fee. Applicants accepted "first come basis." Write: E.A.R.S., Inc., Dept. CY, Box 10245, 5521 W. Center Street, Milwaukee, Wisconsin 53210.

MISCELLANEOUS

IDENTIFICATION Cards, send stamped self-addressed envelope for samples. NIPCOF, 727 North Main, Las Vegas, Nevada 89101.

SLEEP LEARNING. Hypnotic Method, 92% effective. Details free. ASR Foundation, Box 23429 EG, Fort Lauderdale, Florida 33307.

FREE! Consumer Service Division Catalog. Includes a wide variety of products associated with the special interests of readers of Ziff-Davis magazines — PSYCHOLOGY TODAY, POPULAR PHOTOGRAPHY, STEREO REVIEW, POPULAR ELECTRONICS, BOATING, FLYING, CAR & DRIVER, CYCLE, SKIING. Send for YOUR free catalog today. Consumer Service Div., 595 Broadway, Dept. CL, N.Y., NY 10012.

Advertiser's Index

Service Number	Advertiser's Index	Page Number
	Accessory House	96
85	American Honda	3
82	American Honda	14,15
	American M/C Institute	57
65	BMW	26,27
	Brown & Williamson/Fact	16
	Carbooks	86
40	Carlisle	36
	Champion	5
	Charles Atlas	86
	Competition Chemicals	86
	Cycle Gear	7
	Denco	83
	Dick's Cycle West	77
	Dodge/Truck	10,11
	Dodge/Charger	79
	Eastern Emblem	77
75	General Motors/Oldsmobile	9
79	Harley-Davidson/Cycles	88,89
78	Harley-Davidson/Accessories	C-4
	Honda of Mineola	18,19
	Ideal Manufacturing	82
70	Interpart	2
	Jeep	75
	JML	84
	Kawasaki	49,56
80	Kawasaki	92,93
	K & L Supply	96
	Langlitz	86
	Lockhart	37
84	Lockhart	38
56	Morris	84
21	MotoGuzzi/Premier Motor Corp	91
	National Systems/M.C. Repair	21
27	Norton-Triumph	C-2
	Outrider	95
83	Protect-It	76
	R.J. Reynolds/Salem	C-3
	Select Products/Armor All	45
46	Shelby-Dowd	82
	Shoei	77
	Suzuki Fun Center	86
	Trophyland U.S.A.	77
	U.S. Army	25
72	U.S. Suzuki/Cycles	12,13
73	U.S. Suzuki/Accessories	87
48	Vetter	73
	Village Togs	37
81	Yamaha	103

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Information Service

Cycle Reader Brochure Service

Here's a listing of the latest in literature on commercially available motorcycle products. To receive any of the following materials, simply circle the number next to the item on coupon at right. Your request will be forwarded to the appropriate company.

JOB B0166-0000-01 CYCLE.READ SRVC D2-I6 D4-18 j

101. For those days when the sky doesn't agree with your plans **Neece Industries Inc.** offers info on their P.V.C. and Polyurethane rainsuits and accessories.
102. The **Heath Co.** carries everything in electronics including do-it-yourself tune-ups, CB's, Audio equipment and color TV. Their catalog will give you the details.
103. Just because winter is coming you don't have to put your bike away. **Dave Goldberg Mfg. Co.** offers literature on their cold weather cyclewear.
104. With the cold weather coming up you'll need gloves more than ever. **Boss Manufacturing** has a color catalog that just might fill your needs.
105. If you're thinking of buying a fairing . . . Check out the **Vetter Fairing Co.'s** literature on the Windjammer III.
106. Dirt, grease that needs removing? **Radiator Specialty Co.'s** Gunk Division has a brochure telling you about their chemicals to clean and lubricate all parts of your cycle.
107. If you keep forgetting to turn off your turn signal look into the literature **Signal Sentry Industries** is offering on their self-canceling systems for bikers.
108. Sealants, cleaners and lubricants are the specialty of the **Permatex Company.** They're offering a leaflet on their products.
109. **Gumout** has another of their service bulletins on drive chains and a technical bulletin on Pennz-guard, the multi use penetrant, lubricant, demoisurant and rust preventative.
110. Literature on carburetors, tuning components, flanges and replacement parts as well as super tuning info is available from **G.E.M. Products Inc.**
111. The Silver Shadow luggage trailer and touring trailers are described in this info package from **Time Out Corp.** for vacations.
112. **Burmah-Castrol** offers a pamphlet on their 2 and 4 stroke oils and lubricants for the care and feeding of your motorcycle.
113. **Frank's Maintenance & Engineering Inc.** will send info on their specialty—products for extended front ends. Prices & specs. included.
114. **Born Free** makes a compact trailer for motorcycles and cars. Their full color leaflet tells you all about them including specs.
115. Biker Belts in leather, jute or denim are available with chrome and brass interchangeable buckles from the **Beltmor Co.** They'll send ordering info with details.
116. Learn about the "Supersports for Superbikes" in this brochure from **Pirelli Tire Corp.** which describes their MT line.
117. The **Wisco** Division of **ESB Inc.** would like to tell you the inside story of their batteries. This brochure includes specs.
118. **Michelin Tire Corp.** has prepared a brochure on their on and off road line of motorcycle tires and tubes with descriptions, dimensions and rim recommendations.

For any of the above information circle appropriate number on a coupon at right! ➡

Here's how you can get additional information concerning products and services advertised in this issue, the New Products Editorial Section, and the listing on this page:

1. Clip one of the coupons. Print, or type, your name and address as indicated. Be sure to include Zip Code.
2. Please circle the number on the coupon which corresponds to the number at the bottom of the advertisement, New Product listing, or next to the item in our brochure listing on which you wish further information.
3. Enclose 25¢ to cover our processing costs. Your name will be forwarded to each company from whom you have requested further information: Listed companies will mail out literature as they deem appropriate.
4. Mail Coupon and 25¢ to: Cycle
P.O. Box 2904
Clinton, Iowa 52732
5. Allow 4 to 6 weeks for receipt of literature and information.

CYCLE, P.O. Box 2904, Clinton, Iowa 52732

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40	41	42	43	44	45	46	47	48	49	50	51	52
53	54	55	56	57	58	59	60	61	62	63	64	65
66	67	68	69	70	71	72	73	74	75	76	77	78
79	80	81	82	83	84	85	86	87	88	89	90	91
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118	119	120										

☐ Please send me 12 issues of Cycle for \$3.99 and bill me.

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40	41	42	43	44	45	46	47	48	49	50	51	52
53	54	55	56	57	58	59	60	61	62	63	64	65
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79	80	81	82	83	84	85	86	87	88	89	90	91
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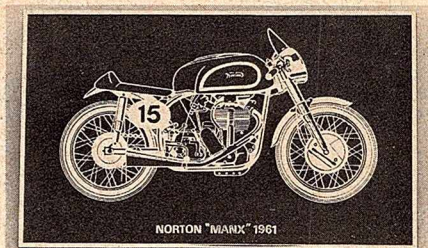
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27	28	29	30	31	32	33	34	35	36	37	38	39
40	41	42	43	44	45	46	47	48	49	50	51	52
53	54	55	56	57	58	59	60	61	62	63	64	65
66	67	68	69	70	71	72	73	74	75	76	77	78
79	80	81	82	83	84	85	86	87	88	89	90	91
92	93	94	95	96	97	98	99	100	101	102	103	104
105	106	107	108	109	110	111	112	113	114	115	116	117
118	119	120										

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Hardware, Software

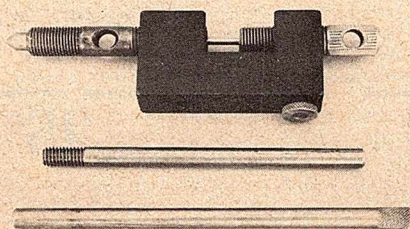
Preserved in plastic: Precarious as the British motorcycle industry is today, its heritage is not, and never will be. For those who wish to have a tangible reminder of Britain's motorcycle history, Bill Stewart is distributing quality plastic plaques with raised images of famous English iron. Presently available are the



Norton Manx (above) and BSA Gold Star. A Vincent and Norton 500T are soon to come. Superb detail—proper number of spokes, proper number of fins on the cylinder, etc.—make the 6 x 10 inch plaques more than a trinket. Order for \$5.95 post paid from Bill Stewart, 420 S. Falcon St., Anaheim, CA. 92804.

CIRCLE NO. 1 READERS SERVICE PAGE

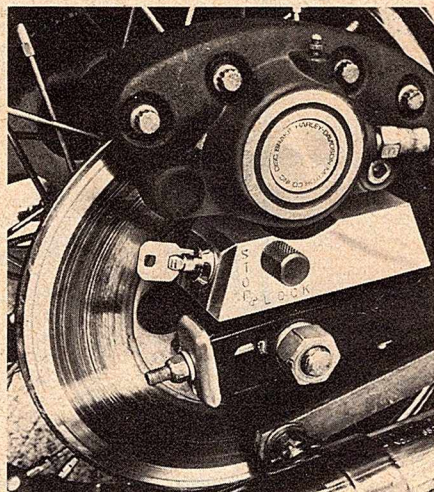
The Breaks: Joe Bolger's combination chain breaker/riveter is the only tool you'll ever need for working on all sizes and types of drive chain. Because many bikes now have endless chains with no master links, you have to remove the entire swing arm to replace or repair the chain—unless you have Bolger's tool. It can even break the tough new 3/4-inch pitch chains and reinstall either a riveted or press-fit link with no loss of chain strength. Many peo-



ple use it to break an endless chain so a standard master link can be substituted for a permanent one. Its hardened steel and close tolerance threads will give it long life even with daily use by a dealer. Thorough instructions simplify the tool's use and care. You can buy one for \$19.95 from a dealer or order directly from Joe Bolger Products, Summer St., Barre, Mass. 01005.

CIRCLE NO. 2 READERS SERVICE PAGE

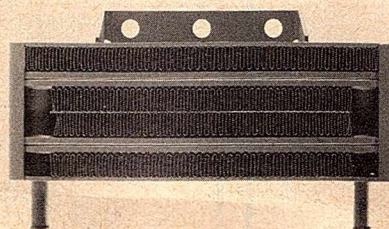
Lock-Up: You think you've seen it all—chains, alarms, padlocks, etc. Here's a new twist for \$39.95. Stop & Lock installs on the rear axle of all Harley-Davidson disc brake models. It qualifies for insurance company anti-theft requirements and discounts. A companion-piece to the Stop & Lock introduced earlier this year for Sportsters and 74s, this disc-brake



S&L prevents roll-away thefts. It requires no chain and adds one pound to the swing-arm. The ace-type key is tough to pick (40,000 combinations). Soon there will be S&L systems for Honda 750s and Kawasaki Z-1s. See your dealer, or write or call: Stop & Lock, P.O. Box 652, Corte Madera, CA 94925. (415) 924-9262.

CIRCLE NO. 3 READERS SERVICE PAGE

Cooler for the GL-1000: Lockhart Industries has recently announced the availability of their new oil cooler for the Honda GL-1000 Gold Wing. The cooler mounts between the oil pump and the filter, and can be located below the steering head in



such a position as to provide sufficient clearance for the front fender, and will not obstruct the flow of air to the GL's radiator. It'll take you a swift 20 minutes to bolt it on. Write Lockhart Industries, 15707 Texaco Ave., Paramount, Calif. 90723.

CIRCLE NO. 4 READERS SERVICE PAGE

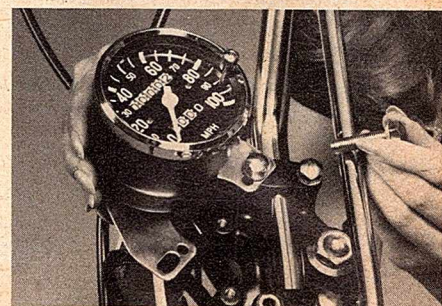
One-Two-Three: You can treat all your motorcycle surfaces with a set of products from Protect-It Chemical Company—the first line of surface maintenance products specifically manufactured for motorcycles. Protect-It 1 is a vinyl and rubber dressing; Protect-It 2 is a polish for chrome, aluminum and magnesium (it also cleans and polishes all bright metals and bathroom fixtures); and Protect-It 3 is



a wax and polish for painted surfaces. Each product is available in four ounce or eight ounce sizes. And for a limited time, buy all three products in the four ounce size and you get a denim bag for carrying the stuff. You'll find Protect-It in all bike shops. The Protect-It Company is You can contact Protect-It at P. O. Box 2315, San Francisco, CA 94126.

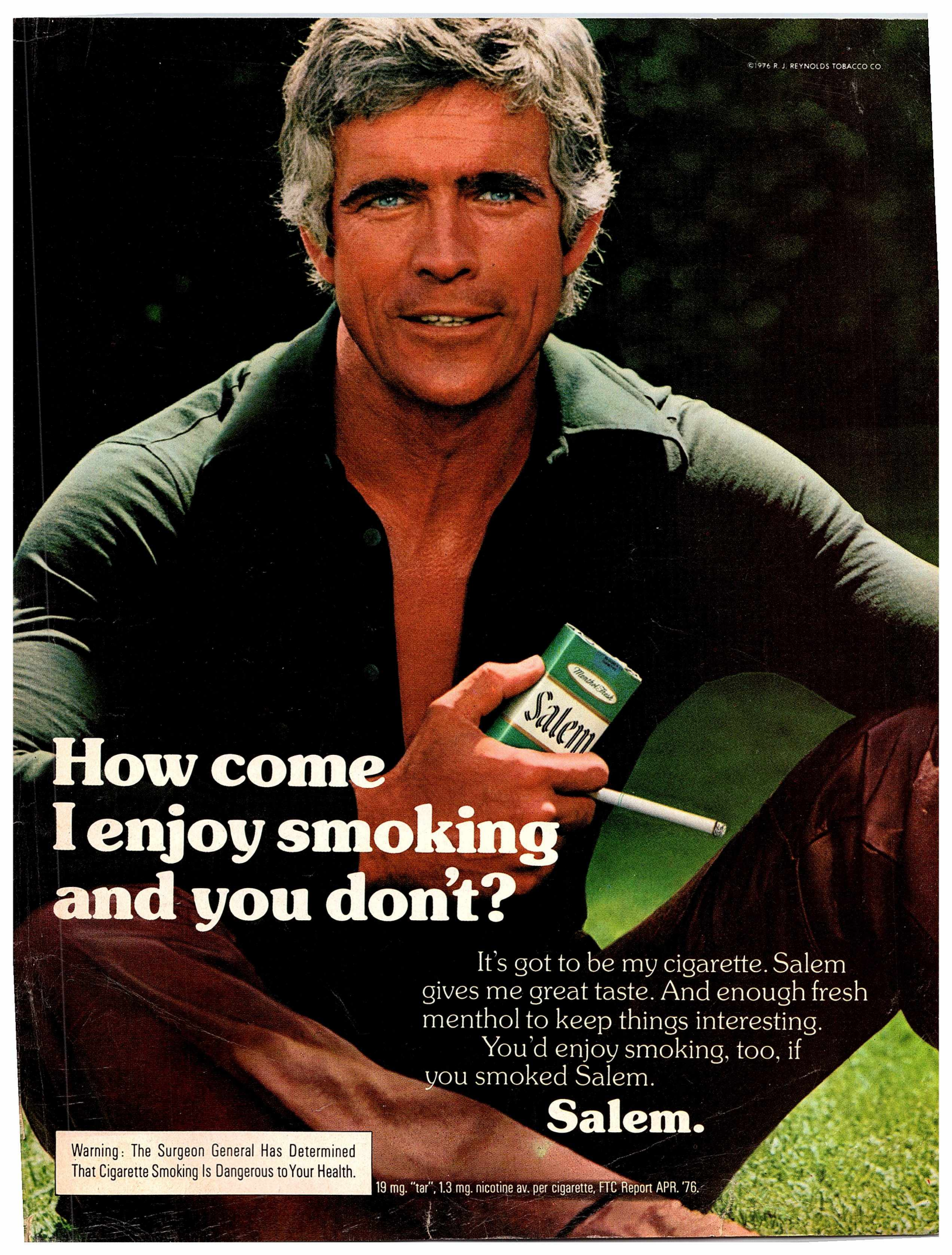
CIRCLE NO. 5 READERS SERVICE PAGE

Make Your MXer Into an Enduro: That may sound curious, but a lot of competitors convert hot-blooded motocrossers into hot-blooded enduro bikes. To make it a bit simpler for them, VDO has announced hardware to install Enduro Speedo or Enduro Racer instrumentation on Yamaha motocrossers. Included in the kits are a hub drive unit, a cable, mounting



bracket, and the instrument of your choice. The bracket is protected from vibration damage by a rubber insert cushion system. You can get the whole magilla in place, according to VDO, in 30 minutes or less. Write to VDO Instruments, 116 Victor, Detroit, Mich. 48203 or call 313-883-7676.

CIRCLE NO. 6 READER SERVICE PAGE ©



**How come
I enjoy smoking
and you don't?**

It's got to be my cigarette. Salem gives me great taste. And enough fresh menthol to keep things interesting.

You'd enjoy smoking, too, if you smoked Salem.

Salem.

Warning: The Surgeon General Has Determined That Cigarette Smoking Is Dangerous to Your Health.

19 mg. "tar", 1.3 mg. nicotine av. per cigarette, FTC Report APR. '76.

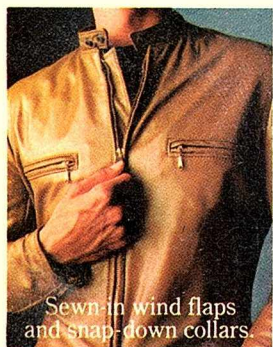
A CHOICE BETWEEN COMFORT OR STYLE IS NO CHOICE AT ALL.

[A Less Than Tolerant Viewpoint from Harley-Davidson]



The man of comfort vs. the man of style.

You see it all the time. Some poor joker takes one look at some fancy leathers modeled by a California actor leaning on a rented motorcycle and before you know it, he's out on the highway in them. Touring Milwaukee in late October, freezing his — — off.



Sewn-in wind flaps and snap-down collars.

Fiction, TV show.

Or he turns practical. And winds up in an outfit that looks like something from a late night, Science

Nobody wins.

Naturally, we feel a great deal of sympathy when this happens. For us. The Human Icicle and Space Oddity don't exactly make great ads for motorcycling. So, in the interest

of your image, and ours, we cordially suggest a way you can avoid all that.

A clothing store for motorcyclists.

Simply visit an expert with such a wide variety of styles he could stock a clothing store—your Harley-Davidson dealer.

The first thing he'll tell you is that no style looks good on a shivering rider. Then he'll show you some features to look for.

Like the specially sewn-in wind flap that's on our Pioneer leathers and Cycle Champ jackets. A wind flap that's not just covering the front of the zipper, but rather, is on the inside, behind the zipper where the wind can't get at it.



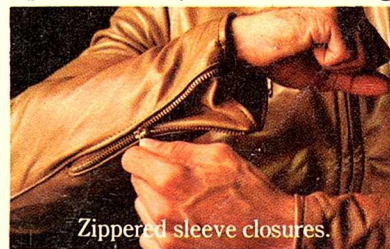
The "action back."

He'll show you the special sleeve closures on many of our jackets, to keep the wind from whistling up your arms. And specially-designed, pleated "action backs" to give you freedom of movement when you bend forward on the cycle.

Common sense.

He'll show you the common sense thinking behind our snap-down collars. And demonstrate how they're designed to keep you from being flapped to death at 40 MPH.

And he'll show you how to determine the proper length riding jacket so that it's long enough to protect you from wind whistling up under it, yet short enough not to bunch up beneath you.



Zippered sleeve closures.

You'll be able to choose intelligently from more jackets, vests, boots, gloves and riding apparel than you'll see from any other

motorcycle manufacturer.

And you'll hit the highway confident that Harley-Davidson would never leave you out in the cold.



It takes a warm body to tame cold steel.

